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2023

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UNIVERSITY OF CALIFORNIA,
IRVINE

Cross-Border Mobility Regimes:
Migration, Labor, and Supply Chain Urbanization in San Diego-Tijuana

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in Global Studies

by

Spencer Louis Potiker

Dissertation Committee:
Assistant Professor Yousuf Al-Bulushi, Chair
Assistant Professor Charmaine Chua
Professor Eve Darian-Smith
Assistant Professor Christopher Harris
Professor David A. Smith

2023

DEDICATION

To

my dog Meatloaf, my wonderful *fiancé* Nikki, my parents Kenny and Lisa, my sister Haley, and
my niece Charlie Jane

in recognition of their love and support

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ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my committee chair, Dr. Yousuf Al-Bulushi who pushed me to be a better scholar. He continually urged me to dive into my field work, go out of my comfort zone, and focus on the applied nature of my scholarship. Without his guidance and persistence this dissertation would not be nearly as strong.

I would like to thank my committee members: Dr. Charmaine Chua, Dr. Eve Darian-Smith, Dr. Christopher Harris, and Dr. David A. Smith who all have contributed insightful comments and ideas throughout the process. A special thanks is owed to Dr. David A. Smith, my master's thesis advisor in Sociology. Thank you for continuing to support me after my transition to Global Studies. You have been an incredible advisor, committee member, and teacher.

In addition to my dissertation committee, I would like to thank Dr. Jake Alimahomed-Wilson, who introduced me to scholarship on logistics labor during my undergraduate training at California State University, Long Beach. Jake, you have been an incredible friend, sounding board, and mentor throughout both undergraduate and graduate school. I would not be completing this dissertation without your guidance.

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Potiker, Spencer Louis, Dana M. Williams, and Jake Alimahomed-Wilson. 2022. "Anarchist and Anarchistic Anti-Systemic Movements in World-Systems Perspective: A Qualitative Comparative Analysis of Non-State Spaces." *Journal of World-Systems Research* 28(2):188-218.

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Alimahomed-Wilson, Jake & Spencer Louis Potiker. 2017. "The Logistics of Occupation: Israel's Colonial Suppression of Palestine's Goods Movement Infrastructure." *Journal of Labor and Society* 20(4):427-447.

ABSTRACT OF THE DISSERTATION

Cross-Border Mobility Regimes:

Migration, Labor, and Supply Chain Urbanization in San Diego-Tijuana

by

Spencer Louis Potiker

Doctor of Philosophy in Global Studies

University of California, Irvine, 2023

Assistant Professor Yousuf Al-Bulushi, Chair

This dissertation project examines the mobility of commerce and labor at the San Diego-Tijuana border. The dissertation tackles three interrelated topics. First, the dissertation analyzes the relationship between borders and the transportation and warehousing sector in San Diego-Tijuana with particular attention on the e-commerce sector. The border in this analysis is viewed both a line of demarcation as well as a malleable socio-legal construction that contributes to the accumulation of capital. Next, the dissertation analyzes what factors are driving urban development in the transportation and warehousing sector in San Diego-Tijuana. It is shown that factors such as increases in cross-border commercial traffic, changes in trade law, a shift to e-commerce in consumption patterns, investments in cross-border infrastructure, and supply chain contingencies are contributing to supply chain centered urban development in the region. Lastly, the dissertation analyzes the opportunities and constraints that transportation and warehousing workers have at their disposal to disrupt supply chains in the border region to make demands for better living conditions. Using Amazon and XPO Logistics facilities in the Otay Mesa border region of San Diego as illustrative cases it is argued that workers have power due to their

position within larger production and distribution networks. However, workers lack power due to the precarious citizenship status of many of those who work in the transportation and warehousing sector.

Chapter 1 – Historical Contextualization, Comparative Logics, and Theoretical Engagement

San Diego is a city associated with tourism, sunshine, and marvelous beaches. While writing this project from my apartment in beautiful Ocean Beach—a neighborhood directly west of downtown San Diego—as well as from my office at the University of California, San Diego (UCSD) in the affluent northern suburb of La Jolla, I too was struck by just how beautiful this city was. Amid writing, I was able to turn around from my desk on the 4th floor of the Social Sciences building and gaze out my window above the cliffs of La Jolla onto Blacks Beach, a world-renowned hang-gliding and surf spot, or take a short walk from my apartment to Sunset Cliffs Natural Park to clear my mind and brainstorm before coming back to my desk to write.

In contrast to the beautiful beaches and parks in which I enjoyed my time in during the writing process, my time in the field was spent closer to the border in both San Diego and Tijuana. The scenery contrasted heavily with my picturesque college campus and residential neighborhood. In the Otay Mesa region of San Diego there was heavy industry consisting of trucking lots, container yards, warehouses, and refineries. In Tijuana it was more of the same paired with dense housing settlements and the ever-present specter of the militarized border wall. When I would return to Ocean Beach after a day in the field I would often do so with dirt on my sneakers, a farmers tan, and heat exhaustion—unfortunately my car’s air conditioning was broken for most of my time spent in the field, something that became acutely difficult to deal with when I would drive across the border in the summer months, stuck sitting in traffic at the border crossing for hours in the intense heat. Fortunately for me as a white-collar academic there was an end in sight to the hot days in the heavy industry parts of town and the long waits at the border, something that cannot be said for the nearly hundred thousand commuter migrants that

cross the border each day to work in San Diego. This experience alone cued me into the resiliency of this population of workers, something I apparently had lost while toiling away in the ivory tower since my days working as an independent truck driver for a paper company in Southern California.

This project tells the story of the other San Diego. The San Diego not of the beaches, parks, five-star restaurants, and luxury hotels, but of heavy industry, migration, and trade. It also tells the story of the relationship San Diego has to Tijuana and how the two cities affect one another. The analysis is done of both cities and their relationship, but the direction of the view is from San Diego to Tijuana. While the field work research was conducted on both sides of the border, I never lived in Tijuana and my writing was done North of the border in San Diego. Also, as a United States citizen and a resident of Southern California for my entire life my own positionality situates me as someone who has a view of Baja California from north of the border. While every attempt to have a multi-directional analysis of the border was made there is no escaping the reality that I am a *gringo* scholar and foreigner south of border.

This project aims to understand how the border impacts these cities and their relationship, how transnational processes such as migration and supply chains are impacted by the border, as well as the potential workers and civil society members have at their disposal to leverage their positionality in San Diego-Tijuana to advocate for a better city. The positionality of San Diego-Tijuana refers to the position of its place in relation to space/time within the global economy (Sheppard 2002).¹ The research is historical in that it gives analytical attention to the shifting economic geography of the border region and how this is tied to larger macrostructural shifts in

¹ Positionality is used to capture the relation of San Diego-Tijuana to the global economy throughout this project. This is because what is being measured is the networked position of the region in terms of the flows of goods and people across space and time.

the world economy. In the remainder of this introductory chapter, I detail the relevant history that sets the stage for this research, the research questions asked and answered, the methods used to answer these research questions, the pressing literature this project is engaged with, as well as summarize what is to come in the rest of the text.

Historical Background of Borders and Logistics

This research ties together several themes in its analysis. The project is ultimately interested in the ways in which borders, migration, and trade; development and urbanization; labor and social movements; and logistical processes interact in the San Diego-Tijuana region. Because of the nature of the research, a history of logistical economic geographies and bordered political geographies is needed before diving into the specifics of the study.

A Long Durée History of Borders and Logistics

Logistics and borders have a contradictory yet interconnected relationship. Logistical processes by their nature of moving commodities, people, and economic inputs around the world inherently transcend borders and create geoeconomic zones. Borders on the other hand fragment the world into geopolitical zones of territorial control and power. In other words, agglomerative economies across borders create geoeconomic zones that transcend the geopolitical border (Sparke 1998). These spaces of geoeconomic flows are shaped through the movement of goods and labor across borders and the extraterritorial forms of governance that monitor those flows such as imperialism and colonialism. If geopolitics are associated with nationalist and statist practices and the subsequent “conception of space, power and security... A geoeconomic conception of security underlines conflict between the logics of territorial states and global

economic flows” (Cowen and Smith 2009:24-25). Sparke (2018) has pointed out that rather than seeing geoeconomics as superseding geopolitics, it is more instructive to think of geopolitics and geoeconomics as constantly enmeshed in a dialectic—implying a back-and-forth, mutually reinforcing but also contradictory relation. That is because without geopolitical power geoeconomic zones could not be secured. Also, without the difference created by consciousness shaped by geopolitical zones through bordering, economic processes would not have difference based on national citizenship status to leverage in accumulation—a topic covered in much more detail below.

To have a full understanding of the relationship between logistics and borders or put another way the relationship between geoeconomics and geopolitics one must understand the ways in which these two processes have been related across time. Bordering in one respect has existed for most of human history. In the same way that two roommates may decide that one room belongs to each person and the living room, kitchen, and bathroom are communal spaces groups of people have made claims to land and agreed upon rules to differentiate who has access to what. There are also other types of borders that have separated groups of people from one-another. For example, ethno-linguistic borders may differentiate one group from another. Overtime, as groups of people were separated from one another, they developed different languages which made it hard to communicate with neighboring peoples. This type of difference resulted in separate communities that had claims to the places in which they lived. Another example of early borders are natural geologic formations such as mountain ranges or bodies of water. For example, the Pyrenees Mountain Range separates what is now France and Spain. Before the existence of modern transport technologies natural borders were difficult to cross and

thus contributed to the separation of people and the development of different ethno-linguistic patterns in distinctive geographies.

In places such as mountain ranges where people lived societies developed in the borderlands between places. Potiker (2019; 2023) details how the Kurdish people lived in the mountains between the feuding Safavid and Ottoman empires. In the mountains Kurds developed a society that was autonomous from both geopolitical powers. Furthermore, treaties and agreements with the Kurds allowed the empires to extend their geopolitical power towards the fringes of the competing empire (Klein 2011; Potiker 2019;2023; Ünver 2016). In the Holy Roman Empire special title and rank were given to nobility in the border regions. These Dukes, known as Margraves, occupied territory at the borders of the empire. As military commanders these Margraves were responsible for security at the peripheries of territorial control (Chrisholm 1911:705).

While borders have existed time immemorial, they have not always signified geopolitical continuity and power in the same way as they do today. While the turn to capitalism as a world-system may have occurred in the late 15th century with the formation of financial institutions in the city states in what is today Italy as well the extensive geoeconomic influence and geopolitical power of the Iberian polities (Arrighi 1994) the spatial organizing logics of that system into bounded nation-states had not yet been fully developed. According to Weber (1946), the networks of flows created by movement infrastructure as well as financial institutions that mediated commercial and financial flows are the causal factors of modern state formation. However, it would take the massive cultural transition ushered in by the Protestant reformation, the hellish violence of the 30 Years War, and time for the inherent contradictions of the newly

formed capitalism to fall into crisis to spatially organize the world into modern nation-states with contested, yet defined borders.

The event which is better than any other to locate the formation of the modern nation-state and the territorial control that went along with it is the treaties of Westphalia—sometimes referred to as the Westphalian system—in 1648. According to Jones (2017:78)

The treaties of Westphalia (1648) formally separated everyday economic and political authority from spiritual authority, over the objections of the Pope. The result, which was written out by the scholar Gottfried Leibniz in the late 1600s, was separate territories of jurisdiction for kings over the everyday lives of their people, recognition of these jurisdictions by other kings, and a separate spiritual realm governed by the Pope in Rome.

From the seventeenth century onward, as the connection between the state and a bounded, defined territory grew stronger, the rulers in these newly emergent jurisdictional territories in Europe worked to create an ordered set of knowledge that allowed the land, resources, and people to be governed.

Now that land (read property), resources (read capital), and people (read labor) could be governed inside national territories under the authority of a sovereign, capitalism could be spatially organized and labor could be differentiated based on national status. At this time nation-states lacked democracy and therefore upheavals and political repression were common as a result of coercive forms of government rather than consented forms of democratic government (see Gramsci 1971 for definition of coercion vs. consent). However, when revolts erupted around Europe in the springtime of nations in 1848 the territorial designations of the nation-state would only be further reinforced because people fought for representation at the nation-state level due to consciousness being shaped by the political geographies in which they lived. The era in which there was a reinforcement of the bounded nation-state as a container for political action is

referred to by Wallerstein (2011) as the liberal geo-culture denoting the defined and territorialized polities following the springtime of nations. (Arrighi, Hopkins, and Wallerstein 1989; Wallerstein 2004; Wallerstein 2011).

While territorial control, or put another way, geopolitical power within a given territory was mapped following the treaties of Westphalia and crystalized in popular consciousness during and after the springtime of nations geoeconomic space exists beyond the territory of any one nation-state. Because of this disjuncture logistical power became a key mechanism to unite geopolitical and geoeconomic zones of influence. According to Khalili (2017:94), “The proliferation of roads, markets, and civilian institutions has gone hand in hand with fighting battles” and therefore extending geopolitical power outside of a given territory. Even before the Westphalian system the Roman Empire’s conquests were tied to their trading routes to Meroe, the eastern deserts, and central Africa. The city state entrepôts of the Mediterranean world economy in the early years of the modern world-system were the legacies of the logistical necessities of the Christian Crusades (Robinson 1983:85-89). Moten and Harney (2013) connect logistics to the formation of modern slavery as it was logistical technologies that enabled the middle passage from Africa to the Americas. The trend of imperial, racial, and capitalist power through logistics has remained the same after the formation of modern nation-states. The rail systems throughout Europe have been linked to the extraterritorial conquests of the Prussian and French Empires. In the United States old supply routes in the genocidal ‘Indian’ Wars were incorporated into the modern highway system. Today this highway infrastructure is used to maintain munitions in the United States imperial conquests as the manufactures of military technology use the highway and port system in the United States to move technologies of death around the world (Khalili 2017:94-95). Adding to this Arrighi (1994) in his world scale political-

economic history connects naval supremacy and the place-based control of strategic trade routes to hegemony within the world-system. All these studies show the relationship between the state, war, capital, and logistics (Potiker 2019) and therefore the expansion of geopolitical power beyond the national border through logistics.

However, borders also do pose a problem for logistics. The logistical fantasy of smooth circulation across borders at times can be hindered by competing states that aim to slow down the movement of goods for geopolitical purposes. Throughout history there is an ebb and flow between the logics of a logistically interconnected world and a nationally contained world. The next section will discuss the more recent history of logistics and borders.

A Recent History of Borders and Logistics

While logistical and bordering processes have existed across human history it is in the context of our current moment that this study takes place. In the mid-twentieth century changes in logistics technologies changed the way in which goods and inputs were moved around the world and therefore changed the way in which the world economy operated. In 1952 the Alaska Steamship Company started converting World War II ships into commercial shipping vessels capable of carrying shipping containers that could handle most types of cargo. Four years later in 1956 the company “Sea-Land, began working with maritime shippers, freight railroads and truckers to develop a common standard, which allowed the containers to easily be transferred across modes of transport” (American Association of Railroads N.d.). By 1960 most rail terminals connected to ports had made the necessary transformation to make standardization from sea to land transport a reality. Intermodalism—the logistics innovation that standardized the alignment of the shipping container to different modes of transport for the easy transition from

one mode to the next—spatially expanded manufacturing to far flung places as both the cost of transport and the time from manufacture to point of sale decreased substantially (Levinson 2006). This standardization in transport is sometimes referred to as the logistics revolution (Bonacich and Wilson 2008).² Because transportation technologies are constantly changing across time, I here would like to point out that this is more of *a* logistics revolution rather than *the* logistics revolution. This is because new technologies such as deep-water ocean vessels in the late 15th century, the steam engine in the 18th century, or even the invention of the wheel some 6,000 years ago could all be interpreted as revolutions in logistics.

The 20th century logistics revolution—from here on referred to as the logistics revolution as shorthand—arose out of a structural problem in “capitalism, namely, the disjuncture between production and distribution, or supply and demand” (Alimahomed-Wilson 2020). The logistics revolution transformed the global economy from a “push-system” or mass-production model to a “pull-system” or *just-in-time* model (Bonacich and Wilson 2006). In the push-system the powerful firms generally were manufacturers. In this model massive amounts of goods were produced and the disjuncture between supply and demand could be made up through higher wages for those goods to be bought back by consumers. Post logistics revolution the economy transformed into a pull-system in which lean production, inventory management, and the fast movement of products from their production site to their point of sale mediates the disjuncture between supply and demand (Alimahomed-Wilson and Potiker 2017; Bonacich and Wilson 2006; Harvey 1990). This is because as Marx (1973) argues, “Velocity of circulation substitutes for volume of capital” (cited in Moody 2022). This means that as the turnover time of capital

² Chua (*forthcoming*) argues that the logistics revolution is actually a counterrevolution because logistics technologies emerged at the same time as a large part of the world was decolonizing. These technologies allowed for capital in the Global North to continue exploiting labor in the Global South and therefore is a reaction to the anti-colonial revolutions happening at the time.

decreases the more times capital can go through a money-commodity-money¹ cycle—where money is the original investment, the commodity is the production and sale of a good, and money¹ is the original investment plus a profit (see Marx 1867). Logistics is a means to reduce the turnover time of capital and therefore mitigates the risk of overproduction by allowing less production to be done at any one given time. The economy post logistics revolution relies instead on more turnovers of capital happening in a given timeframe. This strategy shifts risk away from overproduction but puts risk on the seamless movement of goods across space (Moody 2022).

In the era in which manufacturers were the powerful companies in the global marketplace they would produce a mass amount of goods to operate at sufficient economies of scale. In this system manufactures would sell large amounts of goods to retailers for their products to enter the market. However, with the recent compression of space-time due to the logistics revolution paired with neoliberal policies³ opening the world to foreign competition—in other words the deterritorializing of national economies and the decreasing of the significance of borders at least in terms of capital mobility—firm power has shifted. According to Harvey (2012:96-97):

The economic space of competition has changed in both form and scale over time. The recent bout of globalization has significantly diminished the monopoly protections given historically by high transport and communications costs, while the removal of institutional barrier to trade (protectionism) has likewise diminished the monopoly rents to be procured by keeping foreign competition out. But capitalism cannot do without monopoly powers, and craves means to assemble them. So the question upon the agenda is how to assemble monopoly powers in a situation where the protections afforded by the so-called ‘natural

³ Neoliberalism here is defined twofold. First, the opening of the world to trade and foreign direct investment accompanying the logistics revolution. Second, due to the logistics revolution the disjuncture in supply and demand no longer needed to be mediated through higher wages to buy back mass-produced goods. Therefore, neoliberal policy was able to slash the rights of workers and diminish social safety nets (see Harvey 2005 for a history of neoliberalism).

monopolies' of space and location, and the political protections of national boundaries and tariffs, have been seriously diminished, if not eliminated.

The answer to this question according to Harvey (2012:97) is to either centralize capital in mega transnational corporations or to gain monopoly rights in international law that regulate global trade. Another answer for firms is to develop logistics technologies and strategies that allow them to operate in the era of deterritorialization and globalization most efficiently. Put another way retail firms aim to dominate time-space compression so they can monopolize goods movement around the world and therefore put pressure on production partners to meet the prices in which they set.

In the era of the logistics revolution big box retailers such as Walmart became the powerful firms in the economy. These retailers put pressure on manufacturers to meet their demands for the quick fulfilment of orders at low costs. Because these companies can use different subcontractors to manufacture their goods and these manufacturers are dependent on the big box retailer to sell their goods downward pressure was put on manufacturing wages worldwide. This is because manufacturers were forced to compete with one another for contracts with the monopolistic big box retailers. It also meant that manufacturers were no longer mass producing and instead were waiting on lean orders to meet the demands of the big box retailers (Bonacich and Wilson 2006). In sum, as manufacturing declined in significance in the world economy new emphasis was put on supply chain management. If goods no longer were produced in bulk and instead lean specialized production gained prominence the importance of getting goods to their point of sale quickly was essential. This also meant that security at the edges of national territory, which created slowdowns for movement, had to become secondary to the

security of the supply chain—allowing for the smooth circulation of commodities and inputs from one territory to another.

More recently there has been a shift to e-commerce in retail buying patterns with firms like Amazon dominating sales. There is a growing literature on the way in which e-commerce has affected the logistics revolution (Alimahomed-Wilson 2020; Alimahomed-Wilson and Reese 2020; Newsome and Moore 2018). E-commerce has heightened the need for speed along the supply chain due to the need to get goods to consumers door with a demand for same day and next day fulfilment. E-commerce has also lengthened the supply chain. This is because the point of sale is no longer a retail brick-and-mortar store, but rather is the consumers door through the logistics of the last mile (Ciccantell et al. *forthcoming*).

However, the rise of e-commerce has coincided with the rise of economic nationalism around the world and calls to reinstate protectionist policies and border militarization. These political attitudes are perhaps best exemplified by the 2016 Donald Trump presidential election in the United States and the Brexit referendum in the United Kingdom.⁴ This has created economic stresses on the supply chain due to the contradictory nature of the demands of consumers in the e-commerce era for same and next day fulfilment at low prices and the political will of powerful nation-states to harden borders. Beyond this the world recently went through a global pandemic that further stressed global supply chains. This not only accelerated on-line buying patterns, but also put stress on all aspects of the supply chain as essential workers got sick and could not move goods to the next place in the production and distribution process.

Furthermore, borders calcified due to a panic about the spread of the disease. This resulted in a

⁴ It is interesting that these two countries should move back towards nationalism together as the faces of the neoliberal revolution 40 years earlier were Ronald Regan and Margret Thatcher. It is also interesting that it is the conservative political parties of both countries that pushed for global economic integration in the 1980s and now are advocating for a return to economic nationalism in the 2010s.

slowdown for the seamless flow of goods across differentiated sovereign territories and shortages of many essential goods. It is in this current context in which supply chains have been stressed and extended to their breaking point that this research takes place.

Research Design: Questions, Methodology, and Procedures

In what follows I discuss the research questions that inform this project, the methodological basis for the research, as well as the research procedures and data used to answer the research questions.

Research Questions: Borders, Urban Development, and Chokepoints

This research projects aims to answer three primary questions. The questions are divided into each of the substantive chapters. The first question, answered in chapter 2, is as follows: What is the relationship between borders and the transportation and warehousing sector in the San Diego-Tijuana region? In this question borders are conceived of in multiple ways. The border is the line of separation between San Diego and Tijuana, a malleable legal concept and spatial construction that can be used to bond goods and create foreign trade zones (see Orenstein 2019), as well as socio-legal and socio-cultural concept that divides groups of people into different identity categories. The second question, answered in chapter 3, is as follows: What factors are driving the growth in urban development in the transportation and warehousing sector in the San Diego-Tijuana city system? To do this analysis I both compare San Diego-Tijuana to itself overtime as well as compare the contemporary growth in the transportation and warehousing sector in San Diego-Tijuana with other transnational city systems along the United States-Mexico border. The last question, answered in chapter 4, is as follows: What are the

potentials and structural constraints for workers and civil society organizations to disrupt the supply chain by using a chokepoint in the San Diego-Tijuana region? I conceptualize a chokepoint here as the ability for workers and social movement actors to disrupt the flow of goods to make demands for higher pay, better access to social institutions, and a plethora of other political and workplace issues. To do this analysis I focus at two key sites North of the border—a major fulfilment center for Amazon and an XPO Logistics trucking lot.

Methodology: Conjunctural Comparison, Border as Method, and Transdisciplinary Scholarship

This project draws on multiple methodological and (trans)disciplinary frameworks that have built upon one another over time. The purpose of this section is to discuss the foundations and expansions of the comparative, spatial, and relational frameworks used in this study. This project draws heavily on Leitner and Sheppard's (2020) conjunctural inter-urban comparison; Mezzadra and Neilson's (2013) border as method, as well as Darian-Smith and McCarty's (2017) call for transdisciplinarity in social science research. The remainder of this section discusses these frameworks and their precedents in detail. Specific methodological approaches used in each chapter are restated in less detail in the chapters they are used.

Comparative methods have a long-standing importance to the social sciences. In the basic instance social research is by its nature inherently comparative (Liebersohn 1985). "Researchers compare the relative effects of variables across cases; they compare cases directly with one another; and they compare empirical cases with counterfactual cases" (Ragin and Rubinson 2009). Even in non-comparative single case qualitative research there is often an implicit comparison made with other single case research or one's own lived experience. One of the strengths of an explicitly comparative research design is that it leaves room for multiple and

conjunctural configurations of causation, particularly when using qualitative data (Ragin 2014). In other words, close analysis of qualitative comparative work reveals the intersections of conditions that lead to the outcomes of interest (Ragin and Rubinson 2009).

However, the development of comparative methods has not come without growing pains. First, comparative methods that do not start on a solid historical and relational foundation can lead us to faulty conclusions. Wallerstein (1974) contended that the typical comparison is better served if the researcher places the units of analysis into a holistic and systemic process that encompasses the totality of factors shaping societal outcomes. For Wallerstein this includes processes operating in the local and global or above and beneath the nation-state. Wallerstein set out to change our understandings of place-based phenomena when he originally theorized a comparative methodology for the world-systems perspective. Wallerstein's contribution to theorizing developmental differences at the time was quite revolutionary in the field of sociology as he eviscerated arguments made by modernization theorists about national development being tied to cultural traditions (Levy Jr. 1966). Before the world-systems perspective, development was largely understood in sociology in the United States as a result of cultural practices (Parsons 1964). Therefore, people in 'underdeveloped' societies were blamed for that underdevelopment due to racist tropes about cultural inferiority and superiority. With the development of better relational and historical comparative methodologies world-systems theorists came to an understanding that development and underdevelopment were two sides of the same process, one nation was developed because it exploited another that was underdeveloped (Gunder Frank 1967; Rodney 2011; Wallerstein 1974).

Tilly (1984) set out on a similar mission when he put together his own strategy for comparative analysis. Tilly's encompassing comparison methodology expanded on Wallerstein

by showing explicitly how a comparative methodology could be used to illustrate how the functioning of the whole affected its parts. For Tilly (1984:147), “Encompassing comparisons have twin advantages: directly taking account of the interconnectedness of ostensibly separate experiences and providing a strong incentive to ground analyses explicitly in the historical context of the structures and processes they include.”

McMichael (1990) borrows from and critiques Tilly’s encompassing comparison in his innovative incorporated comparative method. For McMichael instead of assuming an already existing whole that explains the action of its parts, incorporated comparison sees the whole as emerging from the action of its parts—giving more space for historical actors to actively construct the world in which they live. Thus, for McMichael (1990:386), “*neither whole nor parts are permanent categories or units of analysis. Generalization is historically contingent because the units of comparison are historically specified*” [emphasis original]. For McMichael (1990:387) this allows for a researcher to construct “a theoretical account of a recurring or complex historical configuration” not available in prior comparative methods. This method built on Tilly not only by allowing us to eschew functionalist explanations and to avoid a narrow assumed ontological totality of systemic properties, but also by allowing comparative methodologies to go beyond the dichotomy of universal or particular explanations.

Hart (2016) builds on McMichael’s incorporated comparison with her innovative relational comparative method. Hart specifically critiques comparative methods that employ a general or encompassing process and use discrete *cases* as variants of that process. “Rejecting any notion of pre-given ‘cases’ or variants of a presumed universal/general process, relational comparison focuses instead on spatiohistorical specificities as well as interconnections and mutually constitutive processes” (Hart 2016:373). By including a relational character to the way

in which cases are both effected by the systemic processes and the way in which they effect systemic processes it enables an understanding of the interconnectedness of the units of analysis.

One way in which to operationalize the co-constitution of global-local processes under analysis is through what Riofrancos (2021) calls *siting*. Riofrancos argues that we should move from case-based research to research sites. “Siting, therefore, is a way to acknowledge – and analytically leverage – the always global character of political inquiry” (Riofrancos 2021:108). By moving away from a case understanding of our site of study Riofrancos emphasizes how single site studies can add to our understanding of world-historical phenomena by locating the way in which the site is impacted by global processes, but also how agency at the site can affect global processes. In this study single site interpretations are used to understand San Diego-Tijuana as one urban system that interacts with processes of globalization. Multi-site relational comparisons are also used to understanding the relationship across the border between San Diego and Tijuana and along the border between San Diego-Tijuana and other city systems that straddle the United States-Mexico boundary.

Comparative methods have also been specifically developed for urban research. Robinson (2011) argues that even though cities exist in a world city system and that urban studies is an intrinsically comparative field researchers have struggled to develop methodologies to compare across the North-South divide. When comparing across the North-South divide researchers need to be aware of the relations of exploitation between different geographies. Ward (2010) critiques comparative urban studies that use traditional comparative methods and argues for a relational comparative method specific to urban studies. Ward (2010:481) argues that rather than seeing cities as bounded and given that we should see cities “as open and constituted in and through relations that stretch across space and that are territorialized in place.”

Perhaps the most nuanced and appropriate relational comparative urban method for the purposes of this project is Leitner and Sheppard's (2020) conjunctural inter-urban comparison. Leitner and Sheppard stress the dialectic relationship between the global and the local in urban studies. They also use conjunctural analysis to understand the coming together of multiple factors and accumulated antagonisms that shape urban processes. Leitner and Sheppard (2020:492) spatialize the conjuncture to "include extra-territorial causal factors – events and processes happening in other places and at broader geographic scales" in the analysis. They also call for a three-dimensional spatiotemporal ontology to understand the horizontal connectiveness between cities; the vertical inter-scalar relations between cities and larger and smaller scales of governance and territory; and the geohistorical factors that contribute to the trajectories of cities and regions. Lastly, they call for an attention to the co-evolving "socio-spatial positionality of the places under comparative investigation" (Leitner and Sheppard 2020:497).

In the context of this study, I use a spatialized conjuncture in understanding how San Diego-Tijuana is impacted by shifting trade wars, border policy, and a plethora of other factors happening at larger scales. I use a relational comparison in that I understand both cities in relation to one another. I also pay particular attention to the geo-history in the region by locating the changing functions of San Diego-Tijuana overtime. Lastly, according to Clarke (2014:115), the purpose of conjunctural analysis is political in that "it was designed to reveal the possibilities and resources for progressive action... a way of focusing analytic attention on the multiplicity of forces, accumulated antagonisms, and possible lines of emergence from the conjuncture" (cited from Leitner and Sheppard 2020:495). By focusing on the potential for workers to disrupt the flow of goods in chapter 4 I am revealing the possibilities and resources for progressive action along the cross-border supply chain.

Beyond the logics of the comparisons being made and the siting of San Diego-Tijuana within larger processes of globalization I also use borders as an analytical tool to help in understanding difference in the analysis. In this way I follow Mezzadra and Neilson's (2013) *Border as Method*. Borders operate in multiple ways in the study. There is the obvious use of the geopolitical border as an important dividing line between populations that shapes differences in markets, legality, and overall human experience. For this particular attention is paid to how the border is legally constructed and how it changes in certain contexts. For example, with the use of bonded goods borders are extended away from the line we see on the map into the interiors of Mexico and the United States. There is also a need to push beyond a spatial conception of borders. For example, there are social borders. Social borders exist between social groups that create different experiences in the world. In this way borders have a "symbolic dimension... including the role of distinguishing social forms and organizing cultural difference" (Mezzadra and Neilson 2013:14). Some examples of these are gendered borders, racial borders, and cognitive borders between the objectives of different social movements. In this way I follow Mezzadra and Neilson's (2013:16) conception of borders in that the border is more than just a line on a map, but "it is an epistemological device, which is at work whenever a distinction between subject and object is established." Furthermore, because this study is interested in processes such as worker migration and supply chains that cross the border, I also use a logistical gaze of the borderscape (Altenried et al. 2018). By this I mean I center the movement of goods and workers across the same infrastructure that crosses the geopolitical border.

Another border that I was acutely aware of while writing this project is cognitive borders between disciplines within the academy. This project does not fit neatly into any one of the traditional social science disciplines. It is historical, sociological, political, economic, and

geographic in its scope. In this way it is part of a long tradition of world-historic research that spans disciplinary boundaries such as the Annales school of total history or the world-systems unidisciplinary approach to the social sciences (Braudel 2009 [original 1958]; Wallerstein 2001; Wallerstein 2004). These perspectives were interested in bringing disciplinary silos together to discern social reality as well as using history as an analytical tool in understanding the contemporary moment. This project is particularly informed by Darian-Smith and McCarty's (2017:10) "*global transdisciplinary framework* that is more than a simple amalgamation or combination of mainstream disciplinary perspectives." Rather, "the proposed framework posits a holistic global perspective that teases out new theoretical, analytical, and methodological modes of inquiry that are better suited to understand evolving processes of globalization and their accompanying reconfigurations of social, cultural, economic, and political relations." This project aims to live up to the social histories, unidisciplinary approaches, and transdisciplinary approaches that have been so influential in the way I have come to know the world.

Research Procedures: Data Collection and Analysis

This research was done over the course of two years living in San Diego. The research is both qualitative and quantitative. There is an emphasis on qualitative interviews and observations; quantitative descriptive data and quantitative data analysis; and primary document sources. This mixed-method research design goes beyond the nomothetic drive for generalizable findings and quantifiable data as well as the idiographic drive for qualitative description (see Wallerstein 2004). Nomothetic positivists particularly in disciplines such as economics and to a lesser extent political science and sociology call for quantifiable data to make generalizable claims. However, as Wallerstein (2004:19) argues:

Rather than reduce complex situations to simpler variables, the effort should be to complexify and contextualize all so-called simpler variables in order to understand real social situations. World-systems analysts are not against quantification per se (they would quantify what can usefully be quantified), but (as the old joke about the drunk teaches us) they feel that one should not look for the lost key only under the street lamp just because the light is better (where there are more quantifiable data). One searches for the most appropriate data in function of the intellectual problem; one doesn't choose the problem because hard, quantitative data are available.

This research follows Wallerstein's (2004) recommendation and uses quantifiable data for what is useful to solve the research questions, while also using qualitative data to gain detail and greater explanatory power to support that quantitative data. Also, as Wallerstein suggests, the research uses qualitative data where no quantitative data exists. Using comparison, the research aims to bridge the gap between qualitative and quantitative or nomothetic and idiographic camps in academia (see Ragin and Rubinson 2009).

The analysis consists of semi-structured interviews, quantitative data analysis, participant observation, and primary document sources. 18 semi-structured formal interviews plus 7 fieldwork interviews for a total of 25 interviews were done with variety of stakeholders in the San Diego-Tijuana region. Most interviews were done over the Summer months of 2022. The difference between these two types of interviews is in the length and setting. Formal interviews were done at a set time and date either at a meeting place such as a coffee shop or over the phone and video conferencing. The setting was based on the interviewee's preference. Although I would have liked to do all interviews in person the fact that we were not yet fully out of the COVID-19 pandemic led me to decide to give the interviewees choice in whether they wanted to meet in person. Field work interviews were done when the respondents requested to do the

interview upon meeting rather than scheduling a formal meeting. Some interviews were done over the course of multiple meet ups. The reasons interviews were done over multiple meet ups is because these interviews in total lasted over an hour. Out of curtesy to the research subjects the time allotted for the interview was one hour and if we exceeded that time I would ask if they would like to continue the conversation at a later date. If they responded that they would like to continue the interview, we continued the conversation during a new scheduled meeting. Formal interviews tended to last longer on average, lasting anywhere from 20 minutes to an hour (in a few instances, as previously stated some formal interviews lasted for a longer time). Field work interviews tended to be shorter, normally around 20 minutes, although some field work interviews were much longer, such as interviews I conducted with labor organizers while spending a day with them in the field doing participant observation.

The targets of the interviews were workers, activists, and labor organizers; supply chain managers, customs brokers, and management and executive level people in industrial real estate; and third-party public-private relations representatives such as chamber of commerce representatives, economic development council representatives, and city planners. All workers that were interviewed were in some way tied to labor organizing, whether that was with a formal union or independent of a formal union. That is because I was interested in questions about labor organizing so I needed to interview workers that were engaged in organizing activity. The interviews are grouped together in three classifications: (1) labor, (2) capital, (3) third party. The breakdown by type is as follows: 12 labor interviews; 9 capital interviews; and 8 third party interviews. Furthermore, interviews were with people that lived and worked on both sides of the border. In total I interviewed 6 people currently living in Tijuana and another 2 that were originally from Mexico, but now lived in San Diego. All 19 other respondents lived in United

States. The sample is not random. All interviewees were targeted based on their stakeholder status and their knowledge or the processes happening at the border.

Beyond the interviews I also engaged in participant observation research. For this I attended events at local chamber of commerce organizations such as “Breakfast with Amazon”; went to organizing sites with the International Brotherhood of Teamsters such as XPO Logistics; went to hiring events at Amazon Otay Mesa; and crossed the border to go to Smart Border Coalition Meetings, observe the border crossings, and tour Tijuana. I also had a virtual portion of the research. Because of the COVID-19 pandemic some meetings and events only happen online now. I went to meetings with the Committee on Binational Regional Opportunities (COBRO) which consisted of the San Diego Association of Governments (SANDAG) and their Tijuana partners. These meetings are where binational infrastructure projects were discussed and developed. Furthermore, I toured Amazon facilities; went to supply chain management conferences and events on topics such as digital surveillance of supply chains and algorithmic management; and went to chamber of commerce events online before the end of the pandemic. In this participant observation research, I had countless more conversations with stakeholders in the region that are not technically considered interviews but provided rich detail on the processes taking place at and around the border.

I also use quantitative data, both statistical analysis and descriptive data, to support my findings. This data was sourced from: The United States Bureau of Transportation Statistics, the United States Bureau of Labor Statistics, the American Community Survey, U.S. Customs and Border Protection, SANDAG, the United States Census Bureau; and the Mexican Institute for Statistics and Geography (The Mexican Institute for Statistics and Geography is home to the equivalent data for all the different data sources from the United States). Most of this quantitative

data is used in descriptive terms to make comparisons across time and across the border. However, in chapter 3 shift share analysis is used to show the spatial specificity of growth in the transportation and warehousing sector across time in San Diego, Tijuana, and San Diego-Tijuana as well as other cross-border urban systems (a lengthier explanation of the method is given in chapter 3).

Supporting the qualitative and quantitative data are primary document sources. This includes sources from the U.S. International Trade Commission; the Office of the United States Trade Commission; trade law; industry reports; internal memos and communiques; newspaper articles; business journals; and reports from SANDAG and COBRO. I also am a member of numerous listservs for people in the logistics industry such as *Air Cargo Next*, the *Wallstreet Journal's Logistics Report*, and *Sourcify*. All these primary documents helped to substantiate, historicize, and contextualize my findings.

Theoretical Engagement

This research engages across interconnected subfields including race and nation, border studies, urban studies, critical logistics studies, and labor studies. In this brief section on theoretical engagement, I introduce some of the foundational theorists in these subfields in relation to the research. This section is not an exhaustive list of the theory this research engages with. There is much more extensive theoretical engagement within each chapter to situate each research question in the necessary literature. Rather, this introduction is meant to contextualize the overall themes of the project with major theorists in each subfield. Some of this literature and the concepts are repeated in the substantive chapters to speak to an individual topic covered

therein. However, it is important to develop a theoretical engagement with these major branches of theory upfront to foreshadow the rest of the dissertation.

Difference and Capitalism

Difference is needed in the capitalist system for it to maintain itself. Capitalism needs heterogeneity in its labor markets, so workers are divided between gender, nation, race, language, or any other number of constructed hierarchically organized categories. This is because these differences effectively combat a universal class consciousness. According to Robinson (1983:3), “Of particular interest is the extent to which racialism (and subsequently nationalism) both as an ideology and actuality affected the class consciousness of workers in England.” He continues, “In the intensely racial social order of England’s industrializing era, the phenomenology of the relations of production bred no objective basis for the extraction of the universality of class from the particularisms of race.” These particularisms of race are what inhibit universal class consciousness. Robinson goes on to claim that racialism and nationalism preceded capitalism and thus cannot be an epiphenomenal cultural formation as part of the superstructure of capitalism, but rather that race and capitalism are co-constitutive. This research does not dive deep enough into the formation of capitalism in history to make a claim on these arguments about the formation of race and capitalism, but does pick up on Robinson’s understanding of race, nation, and differences as co-constitutive to capitalist labor markets.

Next, the Mezzadra and Nielson’s (2013) concept of the *Multiplication of Labor* needs to be addressed. The multiplication of labor, according to Mezzadra and Nielson (2013:19), refers to “the role of borders in in shaping labor markets... The processes of filtering and differentiation that occur at the border increasingly unfold within these markets, influencing the

composition of... labor.” They continue, “The multiplication of labor in this regard is a conceptual tool for investigating the composition of living labor in a situation characterized by a high degree of heterogeneity.” In other words, it is important to use a multi-dimensional understanding of borders and difference—both social and political—to understand the social construction of hierarchy within labor markets. In this way borders do not serve to necessarily exclude, but rather to differentially include segments of labor into a labor market (Mezzadra and Nielson 2013). In the case of this study there are differences based on the place of work in relation to the border. For example, there is a major difference in outcomes depending on whether a worker has access to work in San Diego as compared to Tijuana. There is also an inclusion of workers that live in Tijuana into San Diego with different rights as compared to those who have full citizenship in the United States. Also, there are differences based on identity and citizenship status that create hierarchies for those workers that are bound by the national border and differences based on gender for workers working in the same industry (all of this is detailed below in chapter 2).

The sociological literature on race, nation, and labor has tried to address the question of racism within class relations. Du Bois, in *Black Reconstruction in America 1860-1880* argued that white workers acted with the planter class to divide the working class along racial lines. Picking up on Du Boisian sociology Bonacich (1972) argues that labor unions used a short-term strategy of racial exclusion to procure higher wages for white workers. She termed this the split labor market. It was a short-term strategy because although shrinking the labor supply through racial exclusion could temporarily result in higher wages, by dividing the working class along racial lines white workers created cheap alternatives for their work that could eventually be used to replace them once exclusion could no longer be used. Bonacich, Alimahomed, and Wilson

(2008), argue that the split labor market can be applied to a global scale. This means that protectionist policies—seeped in racial underpinnings—work to exclude labor from labor markets along commodity chains. They argued that instead of these protectionist policies a better long-term strategy would be transnational labor organizing. Alimahomed-Wilson and Alimahomed-Wilson (2016) argue that the same logics of the racialized split labor market can be applied to gendered splits in labor markets. Furthermore, Silver (2003) argues that difference in labor markets, created by borders between national groups, are pursued by both workers and capitalists. Workers use borders to limit access to their labor markets whereas capitalists use them to create different norms for the remuneration of work or for the *multiplication of labor*. However, as Peters (2017) shows when workers organize for anti-immigrant policy to limit or exclude migrants access to domestic labor markets capital responds by opening barriers to trade. When workers use protectionist policy capitalists responds by opening immigration. In this way they *trade barriers* to ensure access to highly exploitable labor. Of course, interests are not the same across an entire class, but Peters (2017) effectively shows the back and forth of these two interrelated policies across time in the world economy.

Border Studies

Up to this point borders have been discussed both in terms of history and method. Difference, discussed in the last section, can be defined as a type of border when using Mezzadra and Nielson's (2013) *border as method*. However, now I turn my attention to a theoretical engagement with borders and borderlands as geographies between differentiated places. Due to the focus of this research being on urban development and political economy I will primarily focus on these aspects of borders. However, a definition of what a border and what a borderland

are is needed before I continue to the political economy of borders. According to Anzaldúa (1987:25), “Borders are set up to define the places that are safe and unsafe, to distinguish *us* from *them*” [emphasis original]. Anzaldúa here is showing how the geographic border serves to differentiate populations. Anzaldúa then goes onto distinguish between a border and a borderland. “A border is a dividing line, a narrow strip along a steep edge.” Whereas “a borderland is a vague and undetermined place created by the emotional residue of an unnatural boundary” (Anzaldúa 1987:25). For the purposes of this study, I am siting the research within a borderland. However, as is shown in the findings the border as a dividing line is often extended into the borderland to facilitate capital accumulation.

Anzaldúa’s (1987) seminal work *Borderlands/La Frontera: The New Mestiza*—cited above—is an excellent example of transdisciplinary scholarship. While on one end the writing is auto-biographical, humanistic, poetic, polemic, and largely centered on cultural critique, Anzaldúa does well to link her analysis of the borderlands to history and political economy. According to Anzaldúa (1987:32):

By the end of the nineteenth century, powerful landowners in Mexico, in partnership with U.S. colonizing companies, had dispossessed millions of Indians of their lands. Currently, Mexico and her eighty million citizens are almost completely dependent on the U.S. market. The Mexican government and wealthy growers are in partnership with such American conglomerates as American Motors, IT&T and Du Pont which own factories called *maquiladoras* [emphasis original].

In these *maquiladoras* in the border region of Mexico there are different management tactics, labor laws, and higher levels of exploitation as compared to the other side of the border in the United States (Bank Muñoz 2004;2008). Most of the people that historically filled the factories

in the borderlands of Mexico were women—a theme that is common among production workers in the Global South (Bonacich et al. 2008; Wright 2006). This transformed the lives of Mexican women as global capital penetrated the border region to capitalize on the difference the border creates (see Cravey 1998).

Borders, however, were not always sites of capital investment. According to Herzog and Sohn (2014:442) areas at the edges of nation-states, in other words in the borderlands, were once bypassed by infrastructure and development. However, they argue that now property in the borderlands is sought after by capital and the state alike to develop highways, industrial parks, and other infrastructures that facilitate capital accumulation. This investment leads to a distinct type of urbanization that crosses a national boundary. They call this type of city system that straddles a geopolitical border a transfrontier metropolis (Herzog 1991; Herzog 2018; Herzog and Sohn 2014). This type of urbanization requires special types of regulation that operate at transnational scales and attracts integrated economic activities that results in both internal and cross-national migrations (Arnold and Pickles 2011). For this analysis I consider cross-border city systems with a combined population of over 500,000 people.

The transfrontier metropolis often results from differentials in costs due to differences in law on both sides of the border. In this way cities and regions can leverage their strategic positionality along the border (Sohn 2014). However, in the case of the United States-Mexico border or any other border that divides Global North from Global South the strategy leveraged by the city in the Global South is often offering exploitable workers. In this way urbanization is paid for by the exploitation of these workers. Often, as is the case of the Mexican border towns, these workers are women of color (Anzaldúa 1987; Cravey 1998; Wright 2006).

Critical Logistics Studies and Logistics Labor

The primary thread that runs through the entire project is a critical engagement with logistics and a political engagement with labor. This research was conceived of and followed through with because I have a political commitment to labor. I am a worker, part of a class of people that does not own property and buy other people's labor power to procure profit. Because of this my political commitments lay with the workers of the world. Related to this is a critical engagement with logistics. As a person who grew up in a time in which neoliberalism and the logistics revolution had fully entrenched themselves into economic life, I always had a natural pull towards understanding the relationships between these new technologies of globalization and the job opportunities available to me and many of my friends. As a child of Southern California where my parents' home has views of the industrial port at Los Angeles and Long Beach, I was always acutely aware of the nature of logistics labor in the global economy. It is in this context that this research takes place. In what follows I discuss the main body of literature this research is engaged with—that of critical logistics studies and relatedly scholarship on logistics labor.

To properly historicize critical logistics studies, I first place it in conversation with its precedents—commodity chain analysis within the world-systems framework and global production networks. Commodity chain analysis emerged as an integral part of world-systems analysis (Hopkins and Wallerstein 1986). Commodity chain analysis hoped to map the contours and relations within the world-system through tracing the production and distribution of commodities in the world economy. Building on the early work on commodity chain analysis from a world-systems framework Ciccantell and Smith (2009) “lengthened the global commodity chain” by focusing both on raw material extraction and logistics as integral and

constitutive parts of global commodity chains. Geographer Peter Dicken developed a similar perspective to commodity chain analysis known as the global production network. Dicken (2015:6) argues that “we live in a world in which *deep integration*, organized primarily within and between geographically extensive and complex *global production networks*... is increasingly the norm.” These global production networks rely on complex distribution systems that relocate economic inputs and finished goods to new geographies.

It is within the context of this literature on global commodity chains and global production networks that critical logistics studies emerged. Critical logistics studies, as one would expect, critically analyzes how logistics is reshaping the modern world (Allen 2020). According to Chua et al. (2018:619), “early writings on logistics adopted the economic and technocratic perspective of business management, unproblematically taking the expansion and reorganization of material flows as desirable goals rather than grasping them as conflictual and contested processes.” They continue, “In recent years, though, critical scholarship in the humanities and social sciences has complicated this story, rendering visible the social and political implications of logistical growth and reordering.” Drawing on Marx (1885) in *Capital Volume II*, critical logistics scholarship argues that circulation operates as a specific part of the accumulation cycle by selling a “change in location” (Chua 2022). This scholarship has taken three interconnected topical forms of relevance to this project — (1) logistics and state power; (2) logistics and urbanization; and (3) logistics and labor.

Scholars have linked logistical power to state power in numerous ways. One way in which this is done is through the linking of the relationship between civilian logistics in capital circulation to military logistics in war. By locating the critical infrastructures of both civilian logistics and military logistics scholars make a claim that logistics is part of an overall expansion

of political power (Cowen 2014; Khalili 2020). Chua (*forthcoming*) argues that the 20th century logistics revolution was not a revolution, but rather a counterrevolution. In this analysis the integration of the global economy through logistics technologies was a response to the anti-colonial movements that preceded it. Powerful nation-states were able to maintain their dominance over the formally colonized world due to the logistics counterrevolution. Orenstein (2019) argues that the special spatial form of the foreign trade zone and the bonded shipment (discussed in detail in chapter 2), legal constructions, are part of capitalist power enabled through the state. Foreign trade zones and bonded cargo are integral to logistical processes because they mitigate risk along supply chains—where, as argued above, much of a firm’s risk lies in the neoliberal era.

Next, logistics run across space and through places. In the places in which these logistical processes touch down they impact urban regions. World-systems commodity chain scholarship showed the way in which dendritic infrastructure systems in the export oriented Global South impacted urbanization there (Smith 1996). Newer literature within the critical logistics studies tradition has expanded upon this early analysis. De Lara (2018) showed how the Inland Empire east of Los Angeles transformed from an agricultural area to an urbanized steel and military production era, and then more recently to an urban goods movement region. In the Inland Empire goods movement was sold as a solution for the problem of deindustrialization in the Global North. In his analysis De Lara also maps the shifting racial geography of the Inland Empire from its early days as a white agricultural rural geography to a now largely Latinx goods movement urban geography. This type of urbanization has been termed supply chain urbanism (Danyluk 2021) or logistics cities (Cowen 2014). These cities mark a distinctive type of urbanization that

facilitates the flow of goods in the neoliberal era (Cowen 2014; Danyluk 2019; Danyluk 2021; De Lara 2012; De Lara 2018; Negrey, Osgood, and Goetzke 2011).

Lastly, logistics requires a large pool of exploitable labor to ensure goods are delivered either to a storefront or to the consumers door as is the case with e-commerce. These workers are essential in making the logistically integrated economy function. Of particular importance to this story is Amazon. Borrowing distribution strategies from Toyota, Amazon has developed a new type of Taylorist distribution process that ensures packages make it to the consumers door in a timely fashion. This requires workers that are efficient in their tasks and follow Amazon's slogan, *Work Hard, Make History* (Mims 2021). These workers that are behind the scenes in the processes that get the goods to a consumer's door are often underpaid and exploited based on race and gender (Alimahomed-Wilson and Reese 2020). However, because these workers are logistics workers they often exist within chokepoints of global production and distribution networks (Alimahomed-Wilson and Ness 2018). This means that they can leverage their position within critical nodes to disrupt Amazon's supply chains (Kassem 2022;2023). According to Chua and Cox (2022), "Amazon's just-in-time delivery system grants works immense power. The labour of Amazon workers powers the conduits that connect corporate global supply chains to the doors of American consumers." They continue, "Even small collective disruptions by workers can cause temporary localized crises that also ripple across the logistics network." This is not only true of Amazon, but also any other retailer that relies on a logistically interconnected production and distribution system (Alimahomed-Wilson and Ness 2018). To operationalize a chokepoint workers can use a combination of different types of power resources (Schmalz, Ludwig, and Webster 2018) available to them such as structural power (broader economic factors), associational power (worker organizations), institutional power (rights enshrined in

law), or societal power (coalitions with civil society organizations). The power resources approach is discussed in detail in chapter 4.

Looking Ahead

In the rest of the dissertation project the research questions are answered, and the themes engaged with. In chapter 2 an analysis of bordering along the supply chain is taken up. Not only does the chapter analyze the way in which the geopolitical border impacts the supply chain sector in San Diego-Tijuana, but it also analyzes how social borders impact San Diego-Tijuana's labor market as well as how bordering is used along the supply chain within each country through the bonding of goods. In chapter 3 supply chain urbanism is examined in the case of San Diego-Tijuana. It is shown that supply chain urbanism has taken place over the last decade in San Diego-Tijuana and the growth in the sector is highly regionally specific. It is argued that changes in commercial traffic patterns, changes in trade law, a shift to e-commerce in buying patterns, investment in cross-border infrastructure, and supply chain contingencies have contributed to this growth. To gain analytical leverage the region is compared with itself across time as well as with other transfrontier metropolises across the United States-Mexico border. Lastly, Chapter 4 takes up the question of labor's potential to use a chokepoint to disrupt the supply chain in San Diego-Tijuana. It is argued that because circulation through San Diego-Tijuana is needed for firms to maximize profits by using the border workers can leverage their position along supply chains to make demands for better pay and working conditions plus a host of other political demands. It is also argued that due to the precarious nature of cross-border labor migration there are structural constraints that may limit this potential. To show this an analysis of Amazon and XPO Logistics in the region is taken up.

Chapter 2 – Bordering Along the Supply Chain

For over a century following the Treaty of Guadalupe Hidalgo (1848) – in which the current United States-Mexico border was politically constructed – the border region remained sparsely populated. Popularized events such as the Baja Revolution in 1911 or the World’s Fair in San Diego in the same year happened in sparingly inhabited regions or nascent urban formations (Davis, Mayhew, and Miller 2003) that do not compare to the transfrontier metropolis of around 3.5 million people we see today.

In the 1960s the rugged desert area known today for its intense heat and miles upon miles of fortress like border defense systems began to be populated. The reason for this first era of population growth and urbanization in the border region was twofold. First, the Sun Belt region in the United States was the original space where union shops, famously won in the Great Lakes Region, could be broken up and manufacturing in an era of declining profit could be relocated within the United States across the Mason-Dixon line. Once air conditioning technologies were capable of cooling factories, manufacturing was relocated to the Sun Belt region where capital enjoyed friendly taxation and anti-union laws (Silver 2003). Second, in 1965 the Border Industrialization Program was installed in Mexico. This was the first iteration in industrialization and urbanization on the Mexican side of the border.

The Border industrialization program was institutionalized by the *Partido Revolucionario Institucional* (PRI) Mexican government to gain a share of export-oriented-industrialization, a major developmental strategy taking place across the formerly colonized world in the 1960s. This strategy separated the border region from the rest of Mexico in terms of policy implementation. The rest of Mexico—from the Mexican Revolution in the early 20th century up until the end of the 20th century when neoliberalism began to take hold around the world—was

pursuing an import-substitution-industrialization strategy (Thornton 2021:1). During the moment in time the border industrialization program with its focus on export-oriented-industrialization was taking off “The administrations of Adolfo Ruiz Cortines (1952-1958), Adolfo López Mateos (1958-1964), and Gustavo Díaz Ordaz (1964-1970) pursued an import-substitution industrialization strategy that promoted significant investment of foreign capital and participation of foreign firms” (Thornton 2021:146). These contrasting policies differentiated legally the border region of Mexico which was used for export-oriented-industrialization from the rest of Mexico which was using an import-substitution strategy.

What the border region offered was a twofold strategy for cheapening labor while keeping the cost of transportation down. This was achieved by placing production either in anti-union states in the Sun Belt region of the United States or offshoring parts of the production process to the border towns of Mexico adjacent to major consumer markets in the United States. This strategy is often referred to as “nearshoring” rather than offshoring production to a more distant part of Mexico’s interior or other parts of the world. With respect to labor, costs were kept down by moving to anti-union states within the United States and then subsequently into the border region in Mexico to use labor in the Global South, in which work is remunerated at a fraction of the cost. With respect to transportation, costs were kept down by keeping production near the final point of sale rather than relocating to places further away in the Global South such as East and Southeast Asia. Generally, firms capitalized on both locations as part of their production and distribution network handling parts of production, assemblage, and goods movement on both sides of the border. Because of this the border region developed several binary city systems that straddle the border. The interconnected economic functions of these

cities are referred to as the twin plant system because of the links in the production and distribution network that exist on both sides of the border on the same supply chain.

This chapter investigates how the border is used for surplus value creation through legal engineering via tax law, trade law, labor law, and real estate cost differentials as well as how the border is used as a mechanism in the reproduction of capital, the division of the working class, and the disciplining of labor. The chapter does not analyze the border as a region that attracts specific types of labor processes, capital, and infrastructure investments as well as the possible vulnerabilities the border may create for capital circulation, inquiries which are taken up in the following chapters. Instead, this chapter focuses on the border as a spatial and legal construction as well as a dividing line. The chapter analyzes how the border is produced and used and the extent to which it is fixed or malleable in practice. The chapter also complicates our understanding of borders as lines of separation instead seeing their complex forms and uses for the reproduction of capital; division, surveillance, and disciplining of the working class; and the mitigation of costs such as labor remuneration and tariff avoidance. In other words, the chapter investigates the way in which borders are used to increase the extraction of surplus value along a supply chain.

The chapter is structured thematically. First, I analyze the border as a way to mitigate taxes and avoid tariffs. For this analysis an historical overview of United States trade law is taken up before shifting attention to the rise of e-commerce and special loopholes e-commerce companies can partake in to avoid taxes to maximize profit. Next, the border is analyzed to investigate the ways in which it saves firms costs through the cheapening of storage and labor. I discuss storage costs on both sides of the border as well as the way in which the border is used as a means to separate segments of the working class into national contingents. In this section

special attention is paid to the border as a mechanism of social control and labor disciplining. It is shown that migrant labor markets in binary city systems that sit on both sides of the border, such as the San Diego-Tijuana metropolitan area, operate slightly different than migrant labor incorporation in cities further in the interior of the United States. One reason for this is because social reproduction can remain in Mexico even though the labor market sits within the United States. To analyze this phenomenon, I investigate the border's role in lowering the cost of the social reproduction of capital in San Diego-Tijuana. Cravey (1998:20) defines social reproduction as "the tasks involved in the daily and generational restoration of workers, encompassing mundane household chores... as well as childcare and biological reproduction." In this chapter special attention is paid to the comparative costs associated with reproducing one's family and self on both sides of the border the border. This is done by comparing across the border the fair market rents of both cities as well as other costs such as healthcare on both sides of the border. In line with Cravey's (1998:45) findings, I find that through bordering the state has worked to lower the cost of social reproduction in the border region. Furthermore, I analyze the impacts a multi-national industrial reserve army and a dual labor market has on workers in the region as well as the inflationary pressures it puts on the cost of living in Tijuana, which in contrast to workers working in the United States and living in Mexico raises the cost of social reproduction for those workers who do not have access to work in the United States. Lastly, I investigate how boundaries between social groups operate in the labor market. To do this I understand gendered difference as a social border that separates workers into a gendered division of labor in the transportation and warehousing sector. I do this analysis by looking at the gendered division of labor within warehouses as well as difficulties women face when

transgressing the gendered boundary by participating in the trucking sector—a field dominated by men.

For these analyses, I draw upon qualitative interviews with strategic actors such as workers, labor organizers, supply chain managers, industrial real estate brokers and developers, as well as other experts in the region and the sector. To further substantiate the findings and immerse myself in the political economy of the San Diego-Tijuana metropolitan area I attended industry and academic events such as chamber of commerce seminars, nongovernmental organization meetings, city planning meetings, and intellectual panel discussions about the region. I also did field work in the San Diego-Tijuana logistics corridor at Otay Mesa. Lastly, I use primary document sources such as national level policy, reports from academic research centers and governmental organizations, archival documents from federal governmental organization such as Customs and Border Protection and the United States Trade Representative, news articles from newspapers such as the *San Diego Union Tribune* and the *San Diego Business Journal*, as well as industry reports from a variety of sources in order to triangulate and further substantiate my findings.

Special attention is given to what Altenried et al. (2018) call the logistical gaze of the borderscape. This means that, I center the movement of goods and workers across the same infrastructure and in the same processes of accumulation. The logistical gaze views the border as a mobility regime that filters the circulation of capital and labor rather than completely hindering their movement (Altenried et al. 2018). Before I discuss the findings, I review the most pressing literature on social and political borders and their effects on logistics and labor to situate this research within the broader conversation on borders as tools in the world economy. I argue that

studying the border region gives unique and intensified insights into the way in which borders are used in the capitalist world-system.

Social and Political Borders

Over time in the capitalist world-system bordering between nation-states has had three main and interconnected goals from the standpoint of three interconnected groups – capital, labor, and the state (Silver 2003:42). From the standpoint of capital, the border segments the labor market which can both be used to offshore production or to use exploitable migrant labor in domestic production. In effect this separates the global working class into national contingents with differentiated norms for the remuneration of work. These segmentations can be used as a boot against the demands of the working class as they attempt to chip away at the surplus extracted from their labor (Chacón 2021; Chacón and Davis 2006; Robinson 2014; Silver 2003). The border in this sense is not meant to exclude, but rather to create differential inclusion. This is done either through the offshoring of production to places where wages are low or through the legal suspension of the rights of migrant workers (De Genova and Roy 2020; Mezzadra and Nielson 2013).

From the standpoint of labor, the border is used to create exclusionary identities in a labor market. Here workers advocate for protection against global market forces including protection against the movement of capital out of the places in which they work and protections against the movement of labor into the places in which they work. In other words, workers advocate for protections against trade and immigration (Silver 2003:24-26).⁵ These often implicitly or

⁵ Silver (2003:26) exemplifies this by stating: “One clear example of late-nineteenth-century interconnectedness (and one with a significant impact on labor and labor movements) is the massive global labor migration of that period. This migration played a major role in transmitting styles of labor unrest and in the precipitating Polanyi-esque movements of ‘self-protection’ (i.e., campaigns to restrict immigration).”

explicitly racialized attitudes rooted in protecting a labor market from outsiders, in this case people of a different national identity, in effect “split” the labor market and put downward pressure on wages over time. This is true even for those of the fully included segment of the working class because the greater the differential inclusion (Mezzadra and Nielson 2013)⁶ is among segments of the working class the less ability migrant workers and workers in the Global South have to organize and gain wages comparable to non-migrant workers and workers in the Global North. In effect this process puts downward pressure on wages for all workers over the long run because there are cheap alternatives for the remuneration of work. The reason cheap options exist is due to the artificial competition for jobs created by ethnic and national antagonisms between workers in the same labor market or along the same commodity chain. The process of splitting a labor market drives the wage rate down for the group doing the excluding because the wage rate has been driven down for the othered group they are in competition with for employment (Bonacich 1972;1976;1980; Bonacich et al. 2008). The inability for workers to come together and advocate for better conditions for all has to do with the particularisms of racism, sexism, nationalism, and a host of other hierarchically organized categories of difference that are beneficial to and are co-constitutive of capital accumulation (Robinson 1983).

Split labor markets are associated with the separation that political borders create in labor markets. However, split labor markets can also be legally or culturally constructed in the domestic sphere through social borders (Mezzadra and Nielson 2013). For example, prior to the Civil Rights victories of the 1960s, labor markets were legally split between black and white

⁶ Differential inclusion and Cedric Robinson’s (1983) racial capitalism in which race and capitalism co-constitute one another can be seen here and throughout the rest of the book as interlocking concepts. People are differentially included onto labor markets due to difference mapped onto bodies due to cultural understandings of superiority and inferiority. It is these cultural particularisms that get in the way of universal class consciousness (see chapter 1 for conversation on differential inclusion and racial capitalism).

workers in many states. In those states where worker segregation was not legal lack of union integration and inter-racial solidarity served as a culturally constructed social border pursued by white workers which worked in effect to split labor markets. In Du Bois's (1935) seminal text *Black Reconstruction in America 1860-1880* he documents how white workers were encouraged and repeatedly chose to divide the working class along racial lines following the United States Civil War rather than align themselves with recently emancipated Black workers. Labor markets can also be segmented by gendered divisions of labor. Some professions are broadly considered masculine while others are seen as feminine. Women in masculine sectors often have similar experiences breaking into a profession as marginalized racial and national groups (Alimahomed-Wilson and Alimahomed-Wilson 2016). Here, the gendered difference operates as a type of border between social groups. This border cannot be seen on a map of the world but nonetheless divides social groups based on belonging to one status group or another (Mezzadra and Nielson 2013).

While systemic and interpersonal racism still does exist in the United States and other places around the world, within the United States the legality of discrimination and therefore the legality of a split labor market was outlawed through a series of laws in the 1960s. However, the legality of differentiated remuneration for labor and the right to organize based on citizenship and place has remained intact.⁷ Therefore, consciousness shaped by the geopolitical border reinforces labor's ability to create exclusionary identities based on nation rather than class. In the contemporary moment the segmentation of the working class is enacted primarily on a

⁷ Darian-Smith (2010) argues that the norm of Anglo-American law is racial discrimination. I argue here that while the civil rights victories of the 1960s ensured some level of legal rights for racialized populations, racial difference regarding the law was transmuted to the national status of workers. Therefore, workers in the Global South and immigrant workers—who are often racialized—are legally and normatively remunerated at a fraction of the cost as compared to their counterparts in the Global North with full citizenship.

transnational scale rather than dividing workers along racial lines within a nation-state. This can be done in two ways, either hyper-exploitable migrant labor can be brought into domestic production or production can go across borders to find hyper-exploitable labor. Either way borders are used as a tool of social control and to fragment the working class into national contingents (Potiker 2019:83-84).

These two bordering tendencies—by capital and labor—are interconnected and part of the same process. They are also inconsistent and uneven in that segments of both classes might call for debordering at times when they are either monetarily or ideologically inclined. According to Chacón (2021) this has become apparent in the neoliberal era. In 1986 the Immigration Reform and Control Act (IRCA) had two main elements. One route was legalization or amnesty the other route was to shift resources toward reinforcing the border or at least to denying migrants access to equal work. This law started a program in which employers could now turn in their own workers to Immigration and Customs Enforcement (ICE) if they saw fit. This in effect shifted the border surveillance apparatus directly to the workplace. If migrant workers were to organize the employer only needed to call ICE or threaten to call ICE to stifle organizing efforts. However, the amnesty side of the bill led to a significant surge in unionization, at a time in which unions were declining overall in the United States. This is because the illegalization of migrant work that was splitting the labor market was removed in certain contexts. Chacón goes onto discuss how this was a learning experience for the capitalist class. The working class on the other hand did not fully learn the same lesson. Unfortunately, those divisions in the labor movement have prevented sufficient support for organizing undocumented workers and keep split labor markets intact for capitalists to leverage in class warfare (Chacón 2021).

Finally, borders are pursued by states to bound citizenship and to develop a mode of governance that partitions the whole into parts (Bollens 2013; Silver 2003). Furthermore, borders are used by states to procure tax income via tariffs on trade as well as to allow segments of capital to forgo taxation via legal engineering such as foreign trade zones, free trade agreements, and bonded cargo (Orenstein 2019). Because the state is reliant on the flow of capital to sustain itself it is tantamount for the states survival that it allows and facilitates the flow of capital across its borders. While securitization of the border hampers the movement to an extent, the surveillance state facilitates the flow of capital and labor by opening corridors and gateways to trade and migration across its borders both via land and sea (Bonacich and Wilson 2008; Cowen 2014; Khalili 2020). In effect the state uses the border as part of a mobility regime that filters and organizes flows of capital and migrant labor rather than stopping flows completely (Altenried et al. 2018; Cowen 2014). These states policies are intertwined with capitalists and workers as the state is the physical arm of these classes and enacts the policies advocated for by them.

While the aforementioned studies on how political boundaries effect labor markets, the flow of capital, and identity formation illustrate how borders operate, many remain at a general level of analysis. When we focus in at the case level, we find that borders operate in a variety of ways with a variety of different outcomes. At times borders limit segments of capital while bolstering others (Alimahomed-Wilson and Potiker 2017; Habbas and Berda 2021). At times borders block labor migration almost entirely (Potiker 2019), while at other times they serve as mechanisms of differential inclusion into labor markets (Altenried et al. 2018; De Lara 2018; Mezzadra and Nielson 2013). Borders can also impact the working conditions of workers that cross the border as part of their daily routine such as commuter workers (Herzog 2018) or transborder truckers (Alimahomed-Wilson and Potiker 2017; Alimahomed-Wilson and Potiker

2018). They also can limit the political imaginary of workers to the nation-state level or can be transcended by internationalist political ideology (Alimahomed-Wilson and Potiker 2018; Kay 2011; Potiker 2019; Robinson 2014; Wallerstein 2004). The point being that borders, although having general properties in the capitalist world-system, are uneven, varied, and historically specific across time and space.

The functions of the border are contested between power blocs within and between classes. According to Mueller (2019:288-289), “Capitalists as a class are disorganized and do not have a singular interest... the state organizes different classes and fractions of classes... in an ‘unstable equilibrium of compromises’ (Poulantzas, 1976: 71).” He continues, “Therefore, a power bloc represents the unity of several class fractions under the leadership of one hegemonic fraction that attempts to portray their interests as being in the best interest of capital as a whole, if possible.” In an electoral political system if capitalists can gain support of the working class, they can exert greater control within the power bloc (Mueller 2019). Therefore, border policies may help segments of one class while hurting another for a period of time. The relationship between borders and the functioning of the political economy of a particular place are greatly variegated and have temporal and spatial specificity. For example, through Heyman’s (2012) study of the United States-Mexico border he finds that the border does not necessarily serve the overall purpose of what he calls “capitalist functionalism.” By this he means the border does not always serve all segments of the capitalist class. Heyman instead argues that while the border and border protection does serve to segment the labor market and therefore cheapen labor, the slowdowns it creates for logistics causes loss in profit for some North American capitalists. Put another way, according to Cowen (2014:81), “the border is flagged as one of the most significant obstacles to trade movement, such that in the context of expanding inspections and regulations,

border security poses a threat to supply chain security.” She continues, “New security programs seek to govern integrated global economic space while at the same time retaining politically differentiated sovereign territories.” The question remains: if the border does at least in part disarticulate the seamless flow of capital and limit firms’ profit, to what extent is it a tool of capital and which segments of capital benefit from the persistence of the border at what times? This is a large question that requires investigating the relationship between specific industries and borders across time and space in the world-system. This chapter aims to undertake one of these cases by investigating the relationship between e-commerce and the United States-Mexico border today.

In what follows, I focus on the role the border plays in surplus value extraction, labor subordination and control, as well as the costs of the social reproduction of capital in the San Diego-Tijuana metropolitan region. Furthermore, I investigate the way in which the border is used as a mechanism of tax mitigation and tariff avoidance for the e-commerce industry. I do all this while paying attention to geo-historical context and inter-scalar interaction to get a holistic understanding of the processes shaping capital accumulation, labor exploitation, and legal engineering in the region. Studying the San Diego-Tijuana region and the dynamics at the geopolitical border rather than general studies of foreign trade zones, spatial construction, legal engineering, tariff avoidance, and semi-permanent migrant labor gives unique insights as to how the border operates.

The Geo-History of United States Consumer Goods Supply Chains

Manufacturing companies, supply chain management firms, retailers, and a plethora of other capitalist actors use a handful of factors when making decisions about where to locate

facilities and routes along a supply chain. Within the capitalist marketplace minimizing the cost of labor and transport within a global production network through outsourcing, containerization, and race to the bottom logics has dominated our current epoch (Bonacich and Wilson 2008; Dicken 2015; Smith et al. 2021).

In the second half of the 20th century the global division of labor began to change. Manufacturing increasingly left wealthy nations in the Global North such as the United States and relocated to industrializing nations in the Global South such as Mexico. This was due to a combination of historical forces that led to a new international division of labor. One of these historical forces was advancements in logistics technologies. Advancements in logistics technologies decreased transportation costs and increased the pace of movement for commodity circulation. Once the cost of transportation was cheap enough firms could relocate production to far flung places where the cost of labor was cheaper. This process is referred to as the logistics revolution (Bonacich and Wilson 2006).

The logistics revolution was important to the functioning of the world economy due to macro-economic shifts happening at the same time. In the Global North real wages were stagnating making old mass production models unsustainable as there was not enough effective demand in the economy to buy back the goods being produced (Bonacich and Wilson 2006). Instead, production needed to be lean and flexible, able to get the limited amount of goods being produced to the point of purchase *just-in-time*. This put pressure on and enabled production to race to the bottom looking for the lowest wages in the world so long as there was the necessary transportation infrastructure in place to get goods to consumers in a timely manner. This shift from Fordist mass production to neoliberal flexible production or just-in-time production is well documented across disciplines in the social sciences (Bonacich and Wilson 2006; Bonacich and

Wilson 2008; Cowen 2014; Danyluk 2018; De Lara 2018; Dicken 2015; Harvey 1990; Khalili 2020; Smith et al 2021).

More recently there has been another shift in the global economy, a shift to e-commerce in buying patterns. The shift to e-commerce has intensified the just-in-time production model. In just a few years the growth of e-commerce has greatly affected the global logistical supply chain. According to Alimahomed-Wilson (2020), “From ocean and air freight, to trucking and warehousing, e-commerce has created a seemingly tidal wave of change in global shipping.” With all the changes e-commerce has brought to the logistics sector a few important aspects are important to point out here. First, e-commerce has heightened the need for speed along the supply chain (Newsome and Moore 2018). This has resulted in more airfreight and less than truckload shipments as well as new regimes of labor surveillance and control in order to ensure goods circulate in the timely manner needed. Second, “E-commerce has transformed the nature of warehousing, leading to changes in the physical structure of warehouse footprints, warehouse technological capabilities, and even locations of warehouses throughout major metropolitan areas” (Alimahomed-Wilson 2020).

Industry insiders such as supply chain managers, industrial real estate brokers, and industrial real estate developers told me taxes play just as large a role in determining the geography of supply chains as do transportation and labor costs. According to an executive at an industrial real estate development firm I will call Kyle⁸, Nashville tends to be a place where they develop real estate because “there is a great Venn diagram of labor, tax, business climate, and population growth.”⁹ Taxes can be mitigated through relocating production in order to avoid

⁸ Pseudonyms are used for those interviewees that wished to remain anonymous and whose quotes are used more than once in the manuscript. For those who are only used once I refer to them as their profession. For those who did not wish to be anonymous I refer to them as their real name.

⁹ Personal interview with author, June 29, 2021.

tariffs; re-routing supply chains in order to register goods in one nation-state or another; or locating distribution hubs in places where income tax, property tax, or fuel tax are low. The technocratic expertise of routing supply chains to mitigate against cost, whether it be transportation, labor, fuel, taxation, or a host of other factors when making logistical decisions necessitates an industry of supply chain managers, customs brokers, and other logistics specialists to map the fastest routes at the lowest costs to produce and distribute goods (Chua et al. 2018). This industry puts pressure on all levels of government, including lobbying for lower taxes, labor costs, and transportation costs to attract capital to a region (Smith et al. 2021). While this may have always been the case in some sense, now more than ever logistics in and of itself is a value-added activity (Cowen 2014). Rather than attracting fixed capital for production—such as a manufacturing facility that makes televisions—city, regional, and state governments are in competition to attract commodity flows—*commodities like televisions*—that may or may not stay in the region (Wachsmuth 2017b).

Because labor is cheaper in Mexico than the United States and tariff prices for imports from Mexico to the United States became low or non-existent for many products following the signing of the North American Free Trade Agreement (NAFTA), there was significant capital flight from the United States to the border towns of Mexico such as Tijuana. The reason the border towns were the primary place in which manufacturing firms relocated rather than further into the interior of Mexico was threefold. First, the distance from Mexico to the United States is the shortest and therefore the cost of transportation is kept to a minimum. Second, due to legal engineering the minimum wage in the *maquiladoras*—extensions into Mexico of United States production normally located by the border (Cañas and Gilmer 2009)—are a fraction of the minimum wage rates in the United States. Lastly, under the IMMEX program—a Mexican trade

program signed into law in 1965—imports of finished goods and critical inputs in the production process could enter the border region of Mexico duty free so long as they would be exported within two years.

In 2001 the standing relationship between Mexican border town exports and United States consumers began to change. This happened for multiple reasons. First, increased security measures at the United States-Mexico border land ports of entry following September 11th, 2001 slowed down the movement of goods and increased the cost of transportation. Second, China entered the World Trade Organization (WTO) on December 11th, 2001. This lowered the costs of trade with China and put Mexican production in competition with cheaper labor across the Pacific. For two decades China's exporting ports and the entrepôt twin Ports of Los Angeles and Long Beach—located across the Los Angeles River from one another—dominated logistics routes for United States consumer goods. Literature exists on these routes, their rise, as well as the inland port urbanization that took place in Southern California's Inland Empire¹⁰ connected by highway and railway to the twin ports of Los Angeles and Long Beach (Bonacich and Wilson 2006; Bonacich and Wilson 2008; Danyluk 2019; Danyluk 2021; De Lara 2018).

In 2019, then President Trump levied tariffs on Chinese imports. As a result, producing in China has become less appealing to many firms involved in the supply of consumer goods to the United States. In the years following the Trump presidency the Biden administration has not reversed course signaling a bi-partisan trade war with China.¹¹ This trade war has changed the geography of supply chains. However, as is normally the case in the history of capitalism, the impacts of trade policy were felt unequally across the economy by company and sector. While

¹⁰ The Inland Empire refers to Riverside and San Bernardino County east of Los Angeles in Southern California.

¹¹ In fact, tensions with China did not begin with the Trump administration. Ho-Fung Hung (2022) documents the Obama administrations pivot towards Asia as a starting point in economic contestation between competing hegemon.

some producing firms now may be incentivized to produce in Mexico or Southeast Asia, the tariffs levied on China have created a niche economic geography for e-commerce supply chains that may not want to relocate due to factors such as having fixed capital in place in China or having well trained and skilled production workers in China. These e-commerce companies are now re-routing goods produced in China through Mexico to avoid tariffs. The reason for this is explored in detail below. The players in this game are customs brokers, supply chain management firms, and warehousing companies that specialize in mitigating taxes and avoiding tariffs in global production networks as well as e-commerce companies themselves. In what follows I discuss the relevant history and contemporary use of United States trade law to mitigate tariffs. I pay particular attention to the way the border is used both as a dividing line as well as a malleable legal construction to meet the needs of capitalism.

A Brief History of United States Trade Law

Global political economy can in many ways be seen as a back-and-forth battle between governmental support of market forces and a government reaction of protection against market liberalization (Polanyi 1944:78).¹² Because the primary political unit in the modern world economy is the nation-state, the state is a site of constant contestation in producing law to protecting certain blocs of the capitalist class over others.¹³ For example, since the end of the

¹² According to Polanyi (1944:78), “Social history in the nineteenth century was thus the result of a double movement: the extension of market organization in respect to genuine commodities was accompanied by its restriction in respect to fictitious ones. While on the one hand markets spread all over the face of the globe and the amount of goods involved grew to unbelievable dimensions, on the other hand a network of measures and policies was integrated into powerful institutions designed to check the action of the market relative to labor, land, and money.”

¹³ While this analysis does study law primarily within the United States, because the nation-state is the institution that generally produces trade law—whether on its own or with trade partners—it follows Darian-Smith’s (2013:378) understanding that “domestic law as it plays out within states, is, and always has been, constitutively linked to issues of global economic, political, and cultural power.” By using this understanding trade law is seen relationally to the global economy. Furthermore, it is seen as a way in which states and the classes the state represents promote their

New Deal era in the 1970s, the global political economy has been dominated by neoliberal governance that lubricates the wheels of global economic integration through free trade agreements, the lifting of tariffs, and security regimes that facilitate rather than hinder the flow of commodities. The recent resurgence of right-wing economic nationalism and reactionary protectionist policies seeped in racialized underpinnings has been in large part a retort to the neoliberal governance that had dominated the past half century. A deeper reading of the history of trade law in the United States renders a picture that is uneven, ever changing, and enmeshed in a back-and-forth tension between protectionism and liberalization.

Following Black Tuesday on October 29, 1929, and the subsequent slippage into the greatest global economic depression in living memory, governments around the world scrambled to put in place protectionary measures, all of which for the most part only further deepened the depression of the world economy. The United States' version of this protectionist panic was the Smoot-Hawley Tariff Act of 1930. Measured by the average tariff rate on imports, the Smoot-Hawley Tariff Act is the second largest protectionist trade law ever enacted into law in the United States (U.S. International Trade Commission 2017). It is only out done by the Tariff Act of 1828 which escalated tensions between two capitalist power blocs – the industrial capitalist class in the North and the planter capitalist class in the plantation South – in the years preceding the United States Civil War.¹⁴ While the history of United States trade agreements is a fascinating topic, here I only briefly touch upon some of the important developments in trade law that have created pathways for mitigating tariffs and avoiding them altogether as well as the

self-interest at the expense of other states, classes, and blocs within the same class. Also, by focusing in at the urban level in the analysis it is shown how the production of law at the state level as a reaction to global phenomena impacts local places thus centering the inter-scalar relations between local, nation-state, and global levels.

¹⁴ In fact, there may be a correlation between tariffs and war. Following upticks in United States tariffs shows an interesting relationship between the world economy and geopolitics.

general shift towards bilateral and multilateral trade rather than complete global economic integration.

What is important to understanding today's trade and logistics regimes across the United States-Mexico border are some of the lasting legacies of the Smoot-Hawley Tariff Act and what unfolded as part of the back-and forth-between protectionism and liberalization thereafter. First, the Smoot-Hawley Tariff Act resulted in a reaction four years later from market-oriented segments of the capitalist and the political classes. Namely, in 1934 congress passed the Foreign Trade Zone Act and the Reciprocal Trade Agreement Act.

The Foreign Trade Zone Act effectively brought the offshore onshore, legally constructing political boundaries within the United States that allowed tariffs on imported goods to be delayed if they were to be consumed in the United States or not paid at all if goods were to be re-exported. In effect, this allowed firms in the United States to capitalize on purely logistical activities. The foreign trade zone mitigates risk by allowing goods to sit untaxed in a warehouse, only paying the tariff once the good has a buyer. It also allowed firms to profit on import for re-export. In such cases, tariffs would not be paid at all because the good would not be sold within the United States. The Foreign Trade Zone Act also paved the way for different types of bonding in shipping which allowed companies to forgo and defer tariffs while moving, packaging, and assembling goods (Orenstein 2019). A bond is when a good sits in a warehouse or circulates between stages of the supply chain without triggering a tariff. Bonding goods will be explained in detail below.

Furthermore, The Reciprocal Trade Agreement Act opened the possibility of lowering the tariffs levied by the Smoot-Hawley Tariff Act through bilateral or multilateral agreements with trading partners. In this system the United States could develop trading relationships with certain

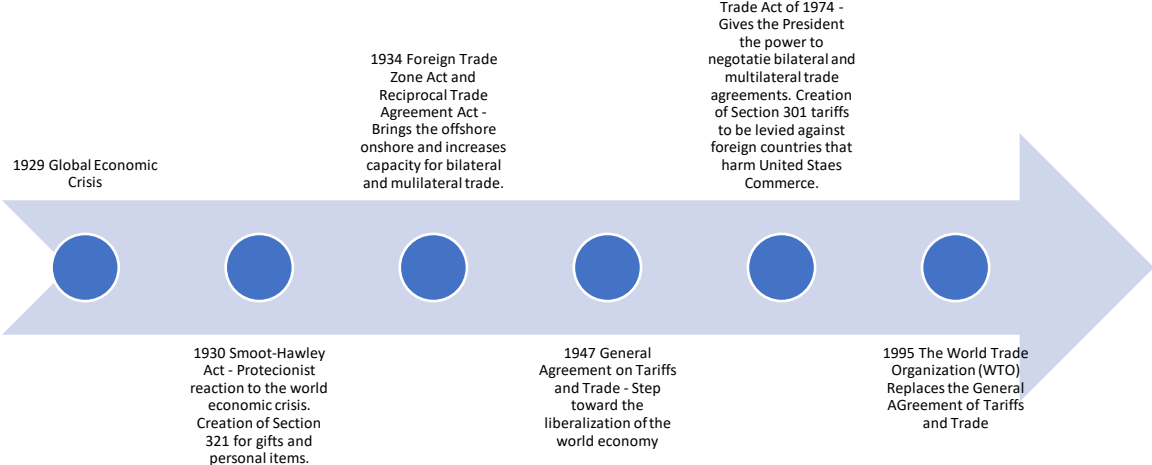
nation-states over others, which remains the norm to this day. The Foreign Trade Zone Act was signed six days after the Reciprocal Trade Agreement Act (Orenstein 2019). Taken together the two 1934 acts were a move by Democrats of the time back toward global market forces and away from protectionism.

Less political at the time, but nonetheless important to the way in which tariff avoidance is executed today, is an amendment within the Smoot-Hawley Tariff Act itself. A special stipulation was made for what were termed *Section 321* imports. Section 321 stipulated that individuals could import *de minimis* (under a certain dollar amount) of goods per day duty free. At the time this stipulation was relatively meaningless for the operations of firms, because importers could never operate at economies of scale while importing under the *de minimis* value. Instead, Section 321 applied to gifts and personal articles. Gifts that were mailed to the United States could be mailed duty free so long as the *de minimis* value was below \$25 and personal items could be brought back to the United States by travelers so long as the *de minimis* value was below \$5. The purpose of the special type of importation was that the expense of monitoring gifts and personal items below the *de minimis* value was greater than the potential revenue that could be gained through tariffs collected on the items (North American Production Sharing 2020).

From 1934 forward the United States, in fits and starts, crept its way toward a more liberalized economy in terms of foreign trade. For example, in 1947 following the end of World War II the United States with other states from around the world signed onto a multilateral agreement known as the General Agreement on Tariffs and Trade (GATT). GATT aligned parts of the world with general rules for economic integration in the global economy. In 1974, the lesser-known Trade Act of 1974 was signed into law in the United States. This act gave greater

unilateral power to the President of the United States in negotiating tariff and non-tariff barriers for trade. This act was important in the United States’ ascent to neoliberalism and the associated global economic integration in that it made the ratification of bilateral and multilateral trade agreements more seamless. One important aspect of the Trade Act of 1974 was a code within it known as *Section 301*. Section 301 gives the President unilateral power to take economic action against foreign governments that “burden” United States commerce (Trade Act of 1974). What exactly this burden means remains unclear, but the result of the Trade Act of 1974 was ever increasing bilateral and multilateral trade agreements between the United States and other countries that opened the world to free trade. At the same time the Trade Act of 1974 also built into the legal architecture of United States trade law a response of protectionism and economic warfare through Section 301 tariffs. A timeline of important moments in United States economic history is shown below in figure 2.1.

Figure 2.1: Timeline of Historical Moments in United States Trade Law Prior to NAFTA



Author’s illustration of important trade legislation in the United States Prior to the NAFTA era

Trade Law in Practice Today

Although trade law and agreements are politicized in popular culture as being completely new and transformative arrangements, trade law is actually amended and continued from past agreements. This means that past trade law stipulations stay in successive trade agreements. Importantly, Section 321 imports and Section 301 sanctions have stayed in successive trade agreements since their legal construction in the 1930s and 1970s respectively. Section 321 imports have expanded and have had their *de minimis* values increased overtime. By the time NAFTA was enacted *de minimis* entry had increased to \$200 per importer per day. Signed into law under the Trade Facilitation and Trade Enforcement Act in 2015 the Obama administration upped the *de minimis* value to \$800 a day allowing for more goods to come in duty free to the United States. In 2018, under the Trump administration, Entry Type 86 was introduced as a part of the United States Mexico Trade Agreement (USMCA). Entry Type 86 is a special type of Section 321 registration that allows less inspection at the border surpassing both Customs and Border Protection like Section 321 as well as other governmental agencies such as the Environmental Protection Agency so long as the goods are under the *de minimis* value (U.S. Customs and Border Protection & Department of Homeland Security 2019).

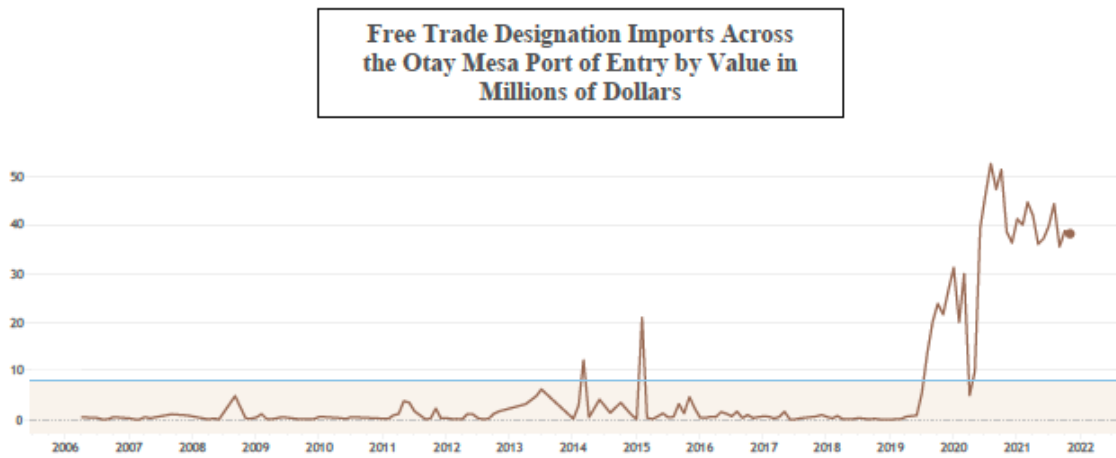
The reason why this is important today is because unlike when *de minimis* entries were used for gifts and to bring back goods from travel, today e-commerce companies can use this special type of importation on a mass scale. That is because e-commerce can technically import goods directly to the consumers duty free so long as those goods are under the *de minimis* value and they are packaged to an individual consumers before they are imported. Taken together the raising of the *de minimis* value of Section 321 and the introduction of Entry Type 86 is a bipartisan project aimed at facilitating the flow of e-commerce across the border.

Today Section 321 importation is used much more frequently and at a much larger scale than before. Important to this process is the act of political bordering. With the rise of e-commerce there are ever-increasing goods coming into the United States at low values directly to importers, now the consumers themselves, rather than a brick-and-mortar storefront. Instead of importers needing to import in bulk to their storefront, now it is commonplace to import directly to the consumer, most of the time in amounts under the *de minimis* value. To use this loophole, goods only need to be packaged and sent directly to the consumer from outside the United States. Because e-commerce companies like Amazon rely on same day and next day delivery using Section 321 requires warehousing near the border as to cut down on transportation costs while still maintaining fast times to delivery.

While Section 321 has been used for nearly a hundred years to bring goods into the United States duty free, since 2018 it has gained increasing attention due to former President Trump enacting Section 301 tariffs on Chinese imports. In 2018 President Trump enacted Section 301 Tariffs on Chinese imports at 10% *ad valorem* (in proportion to the value of the goods). A year later in 2019 the Section 301 tariffs were amended to 25% *ad valorem* resulting in much higher prices for goods produced in China (Office of the United States Trade Representative 2018; Office of the United State Trade Representative 2019). Now that massive tariffs are levied on goods produced in China with end consumers in the United States, if e-commerce firms want to maintain their production partners they can either wait until goods are ordered and ship them directly from China or import to Mexico first. Because e-commerce companies rely on quick deliveries most companies prefer to circulate goods through Mexico. The goods move to Mexico in bulk where they are then broken apart and packaged in warehouses before being imported into the United States. Figure 2.2 below shows the explosion

in the use of free trade zone designated imports crossing at the Otay Mesa border crossing between Tijuana and San Diego in millions of dollars following the levying of Section 301 tariffs on Chinese imports.

Figure 2.2: Free Trade Designation Imports Across the Otay Mesa Port of Entry by Value in Millions of Dollars



Data from United States Bureau of Transportation Statistics

In what follows I focus on the logistics of using Section 321. To do this I trace the supply chain to show why bordering both at the physical border and into the interior of Mexico and the United States is important to the geography of the Section 301/Section 321 supply chain nexus.

The Geography of the Section 301/Section 321 Supply Chain Nexus

After Section 301 tariffs were levied on China in 2018, the re-routing of Chinese goods through Mexican border towns became a viable solution for e-commerce retailers wishing to retain their production partners in China. The questions remain: how exactly does this work in practice? And how does the inscription of extra-territorial designation on goods, trucks, and

warehouses through the act of bordering play a role? To detail these processes of territoriality and bordering I discuss the legal programs that are used and the supply chain routes that circumvent these tariffs. It is important to note that not all Section 321 imports originate in China, since Section 321 imports can originate anywhere in the world including Mexico. However, Section 321 imports became popularized for companies wishing to maintain their production facilities in China due to the Section 301 tariffs levied on Chinese imports.

It is important to understand the legal engineering on the Mexican side of the border that I have only briefly touched upon in this chapter thus far. In an attempt to capture export-oriented industry in the 1960s, the Mexican government initiated the *maquiladora* program. This program allowed manufacturers to import components and raw materials duty free through the IMMEX program.¹⁵ The *maquiladora* program was meant to attract United States capital by offering cheap labor and eliminating tariffs so long as the components and raw materials imported into Mexico and the goods produced were then re-exported within the Mexican government's mandated timeframe. If goods were to leave Mexico, then export-oriented-industrialization would not interfere with domestic manufacturing for domestic consumption that paid workers higher wages in the interior of Mexico—a competing developmentalist strategy called import-substitution-industrialization (Dicken 2015; Thornton 2021).¹⁶

This is important today because to route goods that originate in China through the border towns of Mexico, the shipments are first enrolled in the IMEXX program as to not trigger tariffs upon arrival in Mexico. Once the goods are brought in bulk into Mexico the shipments are

¹⁵ The IMMEX program allows the temporary importation of goods into Mexico so long as they are re-exported within 2 years.

¹⁶ Import-substitution-industrialization and export-oriented-industrialization were competing developmentalist strategies for post-colonial nation-states. Import-substitution-industrialization was a protectionist strategy aimed at developing industry for domestic consumption that would replace the finished goods bought from the former metropolises. Export-oriented-industrialization on the other hand was an anti-protectionist strategy aimed at developing industry in the post-colonial nation-state for consumption in the former metropole (Dicken 2015).

broken apart in warehouses.¹⁷ If the goods are destined for the United States via e-commerce, once the items are ordered online, they are broken apart and registered to the final consumer as the importer and shipped across the border duty free with Entry Type 86 or Section 321 status (Resnick 2019). In effect, the border region in Mexico is reterritorialized, as it sits both outside the United States and Mexico in terms of customs law.

When the product comes back into the United States, it is then cleared through customs as an Entry Type 86 or Section 321 import and shipped to the end consumer duty free so long as the goods are under \$800 in value a day. A brick-and-mortar storefront cannot use this special type of importation because they cannot operate at economies of scale importing under \$800 a day. However, because e-commerce companies can import directly to their consumers, they are able to use this legal loophole to avoid paying tariffs so long as they store goods outside of the United States. Here the geopolitical border is used as a line of separation that creates a loophole in the customs process. By simply moving goods through Tijuana, or any other border city in Mexico, the goods no longer are taxed upon arrival in the United States. According to a representative from Customs City Global Solutions who spoke at a chamber of commerce event in Otay Mesa, “If your company is not clearing customs using Section 321 you could be overspending millions of dollars on duty and tax every year. At customs city we provide e-commerce clearance for all modes of transport.”¹⁸

Trade from China through Mexico was popular far before the Section 301 tariffs were levied on China in 2018. This was in part due to cheap labor and storage costs in Mexico as well

¹⁷ These warehouses can be located within *Recinto Fisicals*—Mexican foreign trade zones—to technically sit outside the territoriality of Mexican customs law. Here goods can be bonded and shipped outside of the country without triggering duties on the Mexican side of the border.

¹⁸ Otay Mesa Chamber of Commerce, “Amazon New Generation Fulfillment Center Opening in Otay Mesa.” Field work observation, June 3rd 2021.

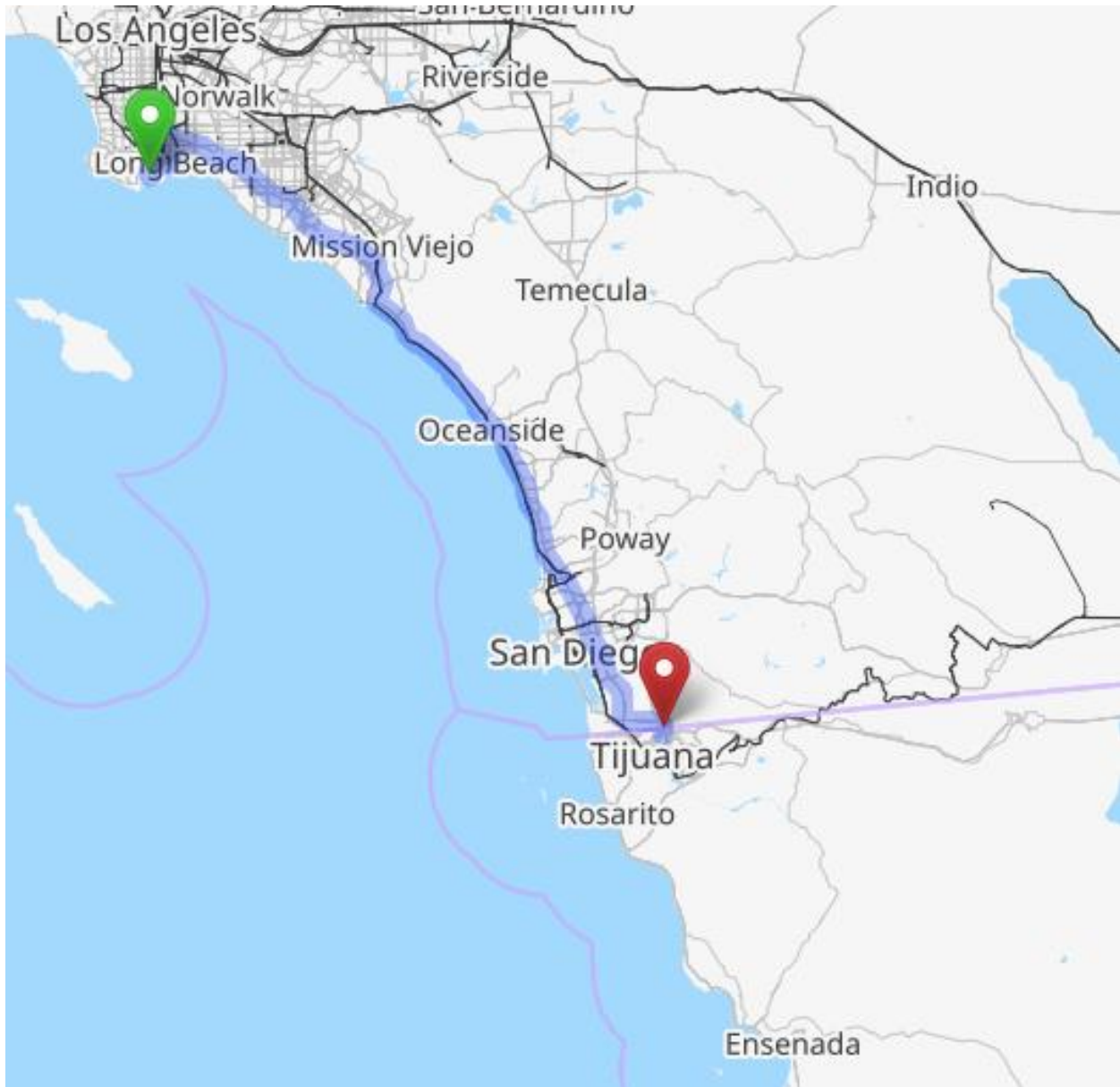
as transnational infrastructure networks that were built from the seaports in Southern Mexico by Mexico City and Guadalajara through the border towns of Texas and Arizona into the heartland of the United States and up to Canada (Cowen 2014).¹⁹ However, Baja California does not have a major seaport nor a connection through infrastructure to a major seaport in Mexico. Baja California's main seaport is in Ensenada. It is a small port for tourism and fishing that cannot intake major ocean freighters. In 2009 it was announced that a mega seaport project in Baja California at Punta Colonet would go forward. The port was supposed to have linked the sea to Tijuana, Tecate, and Mexicali by rail, but funding for the project was pulled due a plethora of problems (Herzog 2009). Because Baja California was never connected to a major Mexican port by sufficient infrastructure, Tijuana relies on the twin Ports of Los Angeles and Long Beach to receive inputs and finished goods from across the Pacific.

While doing field work with independent contracted truckers in the San Diego-Tijuana metropolitan region I found that the most common supply routes truckers worked were from the Otay Mesa port of entry between San Diego and Tijuana to the twin ports of Los Angeles and Long Beach and back. A map of this route is shown below in Figure 2.3 below. Port truckers drop goods at trucking lots or warehouses on the United States side of the border and the other leg of the drive into Tijuana is made by a trucker with a truck registered in Mexico.²⁰ Trucking in which goods are dropped off around a border crossing to be taken by another trucker across the border is called back-to-back trucking (Alimahomed-Wilson and Potiker 2017).

¹⁹ For a details on this infrastructure see chapter 3 below.

²⁰ Most truckers I spoke to live in Mexico. The distinction of which route they have falls on where the truck is registered not where the truck driver lives.

Figure 2.3: Map of Port of Los Angeles/Long Beach Connection to Otay Mesa Border Crossing



Authors illustration of route from the twin ports of Los Angeles and Long Beach to the Otay Mesa port of entry

A nuanced look at the way in which borders work and are used in capital accumulation is needed here because the Tijuana-China logistics connection must operate through the twin ports of Long Beach and Los Angeles. How does a good that comes from China enter United States territory without having a Section 301 tariff levied against it if it is going to be consumed in the United States? The answer lies in the Foreign Trade Zone Act of 1934. As part of the Foreign

Trade Zone Act of 1934 goods were allowed to be moved and stored in the United States in bonded warehouses²¹ without having tariffs levied upon them. Thus, foreign trade zones in which the bonding of goods took place were often at ports of entry on the coast so that goods could be stored without triggering tariffs. However, coastal real estate is expensive and thus capitalists in the business of moving goods needed solutions to construct bonded warehouses in the interior of the United States (Orenstein 2019).

Enter the bonded railcar and the bonded truck. Bonding essentially allows goods to be held in a space onshore that is legally outside of customs territory. The bonding of goods creates a new territoriality for goods using a form of bordering to avoid or delay tariffs (Orenstein 2019). Goods can be bonded and sit in a warehouse or can be moved via bonded railcars and trucks (Orenstein 2018). The bonded truck gives a truck offshore territoriality as it moves through space and time, up and down highways, within United States territory.

When tracing the connection Chinese exports have with warehousing in Tijuana, as seen above in Figure 2.3, the bonded truck moves from the ports of Los Angeles and Long Beach down Interstate-5 through San Diego to Tijuana. While the truck moves across the United States interstate highway, the goods are not technically in the United States as far as customs law is concerned. The Harmonized Tariff Schedule of the United States defines the term “United States” as the customs territory of the United States, not the territory we see on a map (Trade Enforcement and Trade Facilitation Act of 2015). Effectively, the bonded truck is deterritorialized as it moves across space within the United States. When it reaches Mexico, the goods are imported duty free through the IMMEX program from China, or wherever else the

²¹ A bonded warehouse is type of warehouse that sits outside of national customs law in order for goods to not trigger tariffs upon arrival (see Orenstein 2019).

goods may have come from originally, before being shipped back into the United States duty free from Mexico using Section 321 or Entry Type 86.

It should be pointed out at this point that although foreign trade zones technically sit outside of United States customs territory, to use Section 321 goods must come from outside the territory of the United States we see on a map. In other words, Section 321 imports cannot be imported from a foreign trade zone within the United States' borders. According to a customs broker I spoke with this did not quite make sense to him because foreign trade zones are supposed to be technically outside of United States customs law. When asked about why companies cannot use Section 321 directly from a foreign trade zone he said:

That is the really weird thing. You cannot do it from a foreign trade zone. And the foreign trade zone association is up and arms, it is not fair right? You would think foreign trade zones are creating jobs for Americans, and that industry would be flourishing if they can send it to a foreign trade zone and fulfil from there. It would create local jobs, but for whatever reason you can't do it from a foreign trade zone. But we are going to create all these jobs in Canada, and Mexico, and elsewhere so you can do it from there. Some people in congress are not happy about this and want to make some changes.²²

This means that while the foreign trade zone is a spatial form that is separate from the United States in some regard in that it sits outside of United States customs territory it is still considered within the United States in some regards as well. The foreign trade zone is a liminal space that is both inside of and outside of territory. The reason that Section 321 imports cannot be used from foreign trade zones is most likely due to its initial purpose of the law which was to bring goods back from travel and to send gifts from overseas. This highlights the fact that Section 321

²² Personal interview with author, May 24, 2022.

imports at economies of scale by e-commerce companies is not what the original meaning of the law was. The use of these types of importations are more akin to a loophole in customs law than best practices in supply chain management. The above quote also shows the legally constructed nature of territory. As he says, “Some people in congress are not happy about this and want to make some changes.” This signals the way in which what is considered inside and outside is legally constructed by specific policy initiatives.

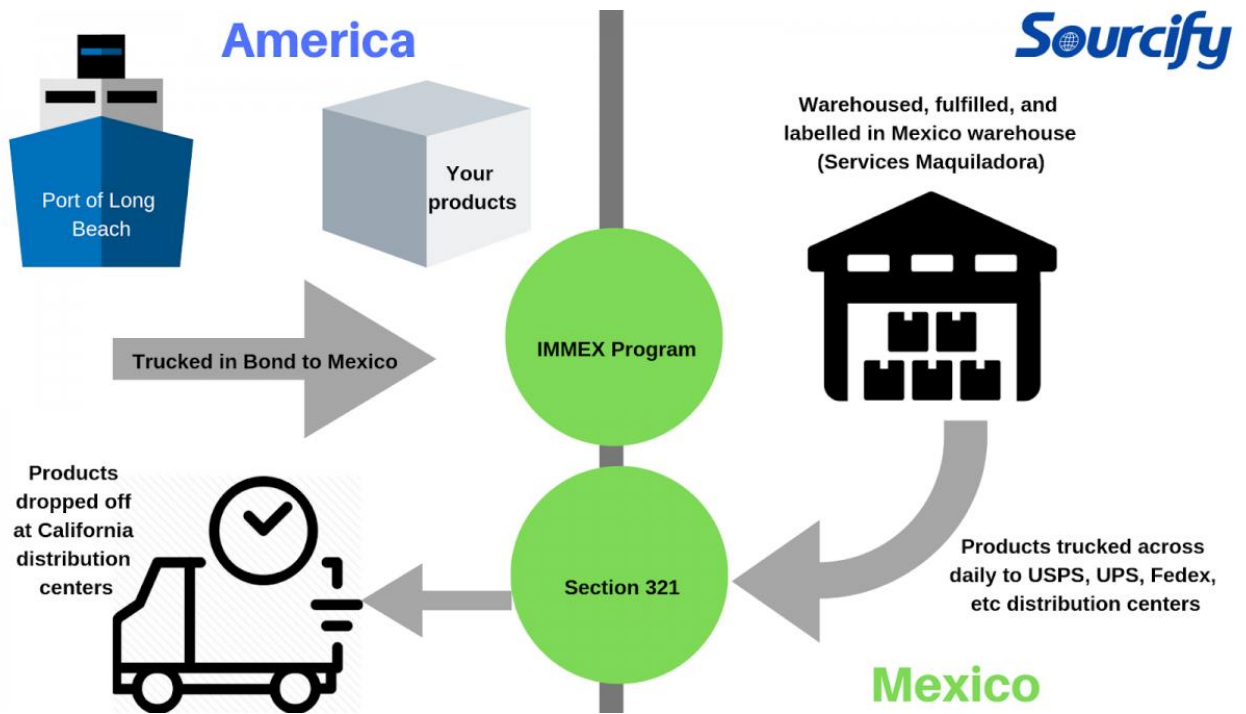
According to one supply chain manager I spoke with, the use of Section 321 is exclusively used by e-commerce companies. To use section 321 in a timely manner when shipping goods from China e-commerce companies either use airfreight or traditional shipping paired with warehousing in the border region.²³ If the company uses airfreight, goods can enter the United States directly so long as the goods were already packaged and labeled to the individual consumer in China. If the company does not want to pay the higher cost of airfreight, they can either wait for goods to be ordered and ship goods from China to the United States. These goods are then received somewhere around 2 weeks from the sale—this is what companies like Alibaba do. If companies rely on quicker timelines from sale to delivery, they can move goods in bulk into North America across the Pacific and store them in the border towns of Mexico such as Tijuana. Once the goods are ordered they can then ship them via truck or rail into the United States. When goods move from China through Tijuana before being moved back into the United States, the product originally comes into North America through the twin ports of Los Angeles and Long Beach. This is because, as previously stated, Baja California does not have a major deep water ocean port. To not trigger United States customs law firms must bond goods at the twin ports of Los Angeles and Long Beach and use a bonded truck to move those

²³ Personal interview with author, May 4, 2021.

goods down the highway to Tijuana. According to an industry insider, “It’s become popular to move your shipments from China to Tijuana and then truck them to the US duty and tax-free” (Premack 2019).

Below, Figure 2.4 illustrates just how this process works. The border is used both as a physical line of separation as well as a legally constructed malleable inscription on a moving object—in this case the truck carrying the bonded goods from the twin Ports of Los Angeles and Long Beach through San Diego into Tijuana. The border needs to be both a physical line of separation and a legal construction within a national territory for this process to work. Goods need to be imported into Mexico across the physical line of separation for them to be packaged and exported directly to the consumer in a timely fashion. The border also needs to be extended in both directions to create a special type of liminal territoriality in Mexico and the United States. The IMEXX program allows goods to sit outside of customs law in Mexico in the *maquiladora* warehouse. In the United States the bonded truck allows goods to sit outside of United States customs law while it travels down the highway to Mexico.

Figure 2.4: Supply Chain Route Using Section 321 on imported E-commerce Goods from China



Taken from Resnick 2019

For a firm to engage in this unique supply chain tactic warehousing in the border region is necessary. Recently, Amazon constructed what at the time was their largest warehouse in the world in the Otay Mesa region of San Diego—over 3.3 million square feet—with a second slightly smaller warehouse directly across the street, and a third warehouse in Tijuana just five miles away. The reason there is a need for warehousing both in San Diego and Tijuana is because there is a need to circulate goods through Tijuana to use Section 321 as well as a need to drop goods in San Diego to facilitate back-to-back trucking. Amazon has also started constructing other major distribution centers along the border such as a large warehouse in El Paso (Kolenc 2020). While Amazon denies that the warehouses in the San Diego-Tijuana area are used for international trade, instead claiming that they are going to be used for local consumption, this is highly unlikely. These major distribution centers are most likely, at least in

part, being used for Section 321 imports. This was substantiated in an interview with Gustavo De La Fuente, the chairperson of the Smart Border Coalition—an organization of private actors that lobby to facilitate the smooth circulation of commerce and labor across the border in the San Diego-Tijuana region. According to Gustavo:

You just saw Amazon build a huge facility in Otay Mesa. It is probably the largest building in the entire county of San Diego. And at the same time, they were building a large facility, a large warehouse in the Tijuana area for the purposes that you just talked about, Section 321.²⁴

Backing up the assumption that these warehouses would be used for international trade, an industrial real estate broker that specializes in the economic geography of warehouses told me:

looking macro at how supply chains work. [Tijuana warehousing] is majority driven by the ability to get products over the border into the US. You take just a heat map, and you look at Mexico's population, you have Tijuana with a dense population, but then you look at where the next heat wave is. There is a big delta between Tijuana and the next major city. You don't put major distribution centers [in areas] that are serving a relatively poverty-stricken city. That product isn't going back into [Tijuana] for the most part. It has got to be coming over the border into an area that can buy and consume those products.²⁵

In simple terms the industrial real estate broker is saying that the logic behind building major distribution centers in Tijuana is to ship goods into the United States. While some of the services may be geared toward domestic consumption in Mexico most of the product is coming back into the United States.

²⁴ Personal interview with author, June 13, 2022.

²⁵ Personal interview with author, July 28, 2021.

Not only are products coming back into the United States, but they are coming back using Section 321. According to the President of the Tijuana Economic Development Council, Carlos Jaramillo, the primary purpose for the boom in Mexican warehousing is Section 321 e-commerce imports. According to Carlos:

Since the US upped the *de minimis* value to \$800 we are getting big warehouse fulfillment in Tijuana where importers are bringing consolidated freight into Mexico from China or somewhere else. And with Tijuana obviously being one of the closest points to the US on the West side, basically, this product is being delivered to homes in the US. This is one of the biggest items related to warehousing and specifically fulfillment.²⁶

Furthermore, there is evidence that Amazon Air shipments used Section 321 because of an incident in which the company used Section 321 improperly. In July of 2020 there was a report issued by the United States Customs and Border Protection because goods were withheld at Chicago's O'Hare airport due to the goods not being properly registered to their final customer (U.S. Customs and Border Protection 2020). To speed up the supply chain Amazon—using the third-party customs company Global Trade Solutions—was importing goods using Section 321, but the goods did not yet have end consumers to import them to. Because Amazon tried to illegally import goods via Section 321, we have evidence that the company does indeed use this special type of importation. Even though Amazon could store goods outside the United States and ship the goods once they were ordered, there are structural pressures to move those goods closer to consumers as fast as possible. Because of this pressure Amazon tried to move goods using Section 321 illegally and thus there is evidence that the company uses this type of

²⁶ Personal interview with author, June 10, 2022.

importation. Unfortunately, Customs and Border Protection does not make data available on what firms use Section 321 and how often they do so. However, because it is clear that e-commerce companies use the border region in order to mitigate tariffs and Amazon is constructing major warehouses along the border it can be gleaned that Amazon is, at least in part, using their border warehouses for Section 321 imports.

At a meet and greet with the general manager of the Amazon facility at Otay Mesa, Mrs. JaNiece Ford stressed that the Otay Mesa facility would only be used for goods that could fit inside a tote bag.²⁷ This implies that this facility will be used at least in part for air cargo, as it is normally small shipments that are sent via air freight.²⁸ In Amazon's logistics network air cargo is used to connect fulfilment centers with each other across the United States and beyond (Schwieterman and Walls 2020). This could be useful for Section 321 imports as goods ordered further away from the border could be shipped via air cargo to the local fulfilment center. Furthermore, the Amazon facilities in San Diego sit adjacent to the Tijuana airport where freight rates are lower as compared to United States' airports.

While the border's multiplicity of functions is important to surplus value extraction, the border still remains a threat to supply chain security because it can hamper the movement of goods in an increasingly economically interdependent world. To mediate this binational cooperation, private-public cooperation, and the extension of border security to the interior is mobilized. Firms register goods with border security and allow surveillance of workers crossing the border to speed up the circulation of goods. The largest program to mediate this is the Secure Electronic Network for Travelers Rapid Inspection (SENTRI) program. The SENTRI program in

²⁷ Otay Mesa Chamber of Commerce, "Amazon New Generation Fulfillment Center Opening in Otay Mesa." Field work observation, June 3rd 2021.

²⁸ This assumption was substantiated by all the industry insiders I spoke to.

effect speeds up travel times for truckers by monitoring the goods before they get to the border. An analysis of border technologies and infrastructures is taken up in much greater detail in chapter 3. It is pointed out here to draw attention to other ways the border is extended away from the line of demarcation on a map to the interior of both countries.

Tijuana as Bedroom and Attic of San Diego

Because goods are being re-routed through Mexico to the United States in order to avoid tariffs, warehousing, trucking, and a handful of other supply chain occupations are required on both sides of the border. Trucking law in North America is protectionist, requiring trucks to be registered nationally. These laws allow international trucks—trucks from Mexico into the United States or trucks from the United States into Mexico—to enter only a small buffer zones on either side of the border. Because of these regulations, trucking and warehouse operations are required on both sides of the border to integrate the supply chain. In Mexico, warehouse operations are required for the process described above – breaking apart shipments to clear customs in the United States. In the United States, warehouses are required to intake goods coming from Mexico before they continue to the consumer’s door. Both sets of warehouses need to be within the buffer zone to give access to truckers to take goods efficiently from one warehouse to the next. This whole process is incredibly labor intensive requiring a highly skilled workforce with a strategic structural position for labor on the supply chain. In what follows I analyze the border as a tool of capital to cheapen labor and storage.

Capital can cheapen labor through using the geopolitical border to create a highly exploitable and substantially sized industrial reserve army, the creation of a dual labor market on both sides of the border, the cheapening of social reproduction through attracting commuter

workers from across the border, and the use of precarious migrant labor in Mexico and the United States. Furthermore, by having access to a highly exploitable industrial reserve army in Mexico as well as a second labor market that is compensated at a fraction of the rate the border is a mechanism to discipline labor. Finally, warehousing space is much cheaper in Tijuana than it is in San Diego. This means that although there is a necessity for warehousing operations on both sides of the border for the movement of goods there is a pull to store goods on the Mexico side of the border to cut down on costs. Because Tijuana offers cheap rent for workers and cheap storage for goods destined for the United States, Tijuana functions as the bedroom and attic of San Diego.

In my time spent around labor organizers and transportation and warehousing workers in the border region it became apparent that a large segment of the blue-collar workforce in San Diego had residence in Tijuana. According to Herzog (2018), data does not exist in order to tell just how many of those that cross the border each day work in San Diego. However, from my time spent in the field near the Otay Mesa border crossing it became apparent that many of the people who worked South San Diego lived in Tijuana. In fact, I was more likely to meet a worker in the transportation and warehousing sector in Otay Mesa that lived in Mexico than one that lived in the United States.

According to border entry data, in 2019—the last full year prior to the disruptions brought about by the COVID-19 Pandemic—52,954,130 people crossed the border into the United States as a pedestrian, car passenger, or bus passenger through one of the three main border crossings between San Diego and Tijuana. This means that the average daily crossing was 145,080 people a day (United States Bureau of Transportation Statistics 2021). One news outlet

reported that around 90,000 people commute from Tijuana to work in San Diego each day (International Strategies 2020).

The large number of commuters is due to the large amount of Mexican nationals that work in San Diego, but also because United States nationals live in Tijuana because the cost of living is a fraction of the cost as compared to living in San Diego. Average rent for a one-bedroom apartment in the city center of Tijuana is around \$300 a month, but that number falls to closer to \$200 a month on the outskirts of the city where many workers live near the Otay Mesa border crossing in East Tijuana (Cost of Living Report 2021). This is a fraction of the cost of a month's rent in San Diego County where fair market rent for a one-bedroom apartment is above \$1,600 a month for the city of San Diego and above \$1,400 a month for the Otay Mesa neighborhood (Office of Policy Development and Research 2021).

While at first glance this may appear to be a resource for labor in order to lessen their cost of living, it is actually a resource of capital in class war. According to Marx (1844),

the lowest and the only necessary wage rate is that of providing for the subsistence of the worker for the duration of his work and as much more as is necessary for him to support a family and for the race of labourers not to die out.

By using the border to reproduce a segment of San Diego's labor market at lower costs, the "lowest and only necessary wage rate" falls for workers that live in Tijuana and therefore falls for the entirety of that segment of the labor market.

Capital in San Diego also puts pressure on workers to not organize by threat of relegating them to work on the other side of the border. An organizer for the Teamster's local 542 told me: "It's hard to get workers organized when they live over there [Tijuana]. They want to organize

for better pay but getting paid \$15 an hour is good for over there. It's a lot better than the \$2 an hour they'd be making."²⁹ Tijuana residents working in San Diego were keenly aware of this as well. Upon meeting a truck driver that drove for XPO Logistics through their independent contractor program he immediately told me: "Just because we live over there doesn't mean we should get paid like we don't live here." He then implored me to "tell them," imagining that I may report my findings to the company. This signaled the urgency he felt about being paid enough to reproduce himself and his family in San Diego whether or not he lived in Tijuana. Furthermore, a worker at the Amazon facility in Otay Mesa, right next to the border, told me that the facility he works at is the lowest paid facility in California. This is because workers are able to reproduce themselves in Tijuana. According to this worker who I will call George, "It is almost a forgone conclusion that we get paid this because we are so close to the border. Because we can see the border from our breakroom."³⁰ Here again workers are aware that they are being exploited due to their proximity to the border.

Employers in San Diego are also aware that they employ people who live in Tijuana. While attending an event for the opening of the Amazon facility at the Otay Mesa chamber of commerce—the chamber of commerce for the region of San Diego right next to the border crossing—business owners let management at Amazon know that they should have communications in both English and Spanish as a great deal of the workforce would be coming from Mexico. Management denied the facility was going to use Mexican labor, but this has been confirmed to be false by workers at the facility as well as my own observations at the Amazon facility. According to an Amazon worker at the facility many of the workers live in Tijuana

²⁹ Personal interview with author, June 2, 2021.

³⁰ Personal interview with author, July 29, 2022.

although he acknowledged that Amazon still denies it officially.³¹ Furthermore, at a hiring event at the Otay Mesa Amazon facility I was able to speak with their lead on the hiring team. He told me that they hired both workers that lived in San Diego and Tijuana and had teams for both Spanish speakers and English speakers.³²

While the *San Diego Union Tribune* (Molnar 2016;2018) has reported on this as an option for workers in San Diego to cut costs, the cheaper cost of rent in Tijuana is a tool of capital rather than a strategy for labor. What makes this case of the manipulation of the costs of social reproduction by the capitalist class unique is that the border serves to transnationalize the social reproduction process and therefore lessen the cost of the social reproduction of capital. Rather than relying on unpaid domestic labor to subsidize the production process the capitalist class in the San Diego region relies on the border to cheapen rent for their workers. The border also serves to cheapen other costs of social reproduction such as healthcare. There are special transnational healthcare programs for workers that live in Tijuana and work in San Diego. These healthcare programs allow firms to give health insurance to workers in which they receive healthcare in Tijuana instead of San Diego at a fraction of the cost.³³

The industrial reserve army in Tijuana also functions to accommodate capital in the region by putting slack in the labor market. The COVID 19 labor market has increasingly tightened resulting in higher wages and increased ability to strike in the United States. This trend holds true in the logistics sector. According to an interview with an industry insider: “In the warehouse sector we are at a shortage of employment. Call it a shortage of qualified workforce based on the amount of jobs that are out there.”³⁴ The border mediates this problem for capital by

³¹ Personal interview with author, July 29, 2022.

³² Field work observation, September 1, 2022.

³³ Otay Mesa Chamber of Commerce, “Breakfast with Amazon.” Field Work Observation, April 6, 2022.

³⁴ Personal interview with author, June 30, 2021.

creating a highly exploitable industrial reserve army in Tijuana. As a result of the border, there is a segmented labor market with different remuneration rates. This helps to create slack in the labor market in the United States as people working in the Tijuana transportation and warehousing sector would generally prefer to work in the San Diego transportation and warehousing sector. The increased industrial reserve army of qualified workers in Tijuana serve as a valve to release the pressure of the tight labor market in San Diego.

The slack in the labor market introduced into the transportation and warehousing sector—vis-à-vis an increased industrial reserve army—combined with lower costs of social reproduction due to social reproduction taking place in Mexico results in lower remuneration rates in San Diego’s transportation and warehousing sector as compared to the United States generally. As can be seen in Table 2.1 this is a markedly different trend when compared with wage rates across all sectors. In 2020 transportation and warehousing weekly wages were on average \$1,064 for workers in the United States. In San Diego average weekly wages in the transportation and warehousing sector were only \$988. This contrasts with the trend across all sectors. In the United States the average weekly wage across all sectors in 2020 was \$1,236. In San Diego that number rises to \$1,359. The pattern holds true for averages across the past twenty years as well. The higher compensation rates in San Diego have to do with, at least in part, the high cost of living in the Southern California coastal city. Because many of the transportation and warehousing occupations in San Diego are near the border and the fact that many of the workers in the sector commute across the border from Tijuana the cost of social reproduction is lower. The wage rates reflect this phenomenon.

Table 2.1: Average Weekly Wages in San Diego and United States

	Average Weekly Wage 2020	Average Weekly Wages 2001-2020
United States Transportation and Warehousing Wages	\$1,064	\$871
San Diego Metro Area Transportation and Warehousing Wages	\$988	\$771
United States All Sectors	\$1,236	\$917
San Diego Metro Area All Sectors	\$1,359	\$978

Data from United States Bureau of Labor Statistics.

Increasingly low wage work in Tijuana is also done by a set of migrant workers from the Caribbean and Central America that are seeking asylum in the United States, but due to the restriction of refugee status in the United States have been held in border towns.³⁵ The differentiated status these workers get as a result of bordering further segments the labor market into a four-tiered system: workers with full citizenship in the United States, workers of Mexican nationality with access to the United States labor market, workers of Mexican nationality without access to the United States labor market, and refugee workers from South American, Central America, and the Caribbean in Mexico. It should be pointed out again that those racist bordering policies that limit access to equal work in the United States for Mexican nationals and in Mexico for South American, Central American, and Caribbean workers only serve to further split the labor market and put downward pressure on wages for all workers.

The border also creates uncertain commute times for workers. The SENTRI program that facilitates truck and commuter crossings across the United States-Mexico border has made

³⁵ Upon visiting a homeless shelter and free medical clinic in Tijuana I noticed that most folks staying at the shelter were not Mexican's. Most of the people I had conversations with were from Haiti and Venezuela. These people had left their homes in search of a better life in the United States only to end up homeless in Tijuana (Field work observation, November 18, 2022).

commute times more viable for workers, but outcomes are still greatly varied at the border. Furthermore, getting enrollment into the SENTRI program in California can take years. While doing my dissertation research I would have had to wait over a year to get a meeting with Customs and Border Protection at the California-Baja California office. The waiting period for the SENTRI program is quicker at the offices at the Arizona and Texas border. Members of the professional and capitalist class from Baja California and California have an easier time making the trip to other states to receive their SENTRI passes in a timely manner as compared to blue collar workers. Workers on the other hand may have to cross the border for years before getting access to the SENTRI system. Workers also must undergo a background check that not only investigates their own personal history, but their family's history as well.³⁶ In this way the SENTRI system is a mechanism of state power and surveillance at the border crossing that uses forms of collective punishment.

While using the SENTRI pass at the border crossing in normal times limits wait times to about 15 minutes for commuter workers, during times of heavy inspection due to national and state immigration policy wait times have been reported to be three hours (Molnar 2018). This was recently illustrated in Governor Greg Abbott's operation "Lone Star" in which the state of Texas shut the border down resulting in heavy congestion and the halting of commerce (Chappell 2022). Wait times at the border also create problems for truckers that bring goods back and forth across the border. Truckers are paid on a per-haul basis due to deregulation in the trucking sector on both sides of the border. Although the SENTRI program can make hauls across the border quicker, delays are uncertain. According to the 2021 Customs and Border Protection data on commercial wait times at the Otay Mesa border crossing, wait times can range anywhere from 1

³⁶ Personal interview with author, September 7, 2022.

minute—normally late at night right before the border closes—to 103 minutes (U.S. Customs and Border Protection 2021). Furthermore, if truckers end up on the wrong side of the border when the border closes at night, they can get stuck away from home, having to pay excess fees to leave their truck overnight in a lot or risk damages leaving it on the street. When this happens to truckers, they need to walk across the border to get home then cross again the next day to get their truck before starting their route. Because they were expecting to finish on the side of the border where they have a spot in a lot their first route is normally scheduled to start on the side in which they normally leave their truck. This means that after they walk across the border the night before to get home, they then need to walk across the border again to get the truck, and then drive across again to pick up their first haul all without pay.

The border also impacts purchasing power in the region. The increased amount of dollars that circulate into the Tijuana economy due to commuter workers and tourism creates inflationary pressures that supersede that of national inflation in Mexico. In fact, of the major cities making up Mexico's economy, Tijuana is consistently a leader in inflation over long and short time periods alike (Instituto Nacional de Estadística y Geografía 2021). Inflationary pressures are made worse in Tijuana when the Mexican peso decreases in value compared to American dollars, a trend that is consistent over the last decade (Deloitte 2019). This means that while workers in the United States that live in Tijuana may benefit from higher wages as compared to their counterparts working in Tijuana, the increased amount of dollars in the economy make the real wages adjusted for inflation lower for the workers working in Tijuana that earn pesos. This in effect makes the cost of social reproduction more expensive for workers in the Tijuana labor market. Workers reported shopping in the United States for certain items due to the inflationary pressures in Tijuana. This is a strategy that is only available for those who

have visas or citizenship in the United States. To offset the dollar-driven inflation in Mexico's border towns, Mexican President, Andrés Manuel López Obrador, initiated the Border Economic Program in 2019 to decrease value added taxes on imports. These taxes are taken out of Mexico's national budget and limit the government's ability to pay for social services, which are desperately needed in Tijuana (Deloitte 2019).

Tijuana is also attracting more warehouse development and therefore needs more warehouse labor on the Mexico side of the border. This is due in large part to lower costs of storage in Tijuana both in terms of labor in warehouses and pallet storage itself. According to an interview in *Business Insider* "Warehouse workers in Tijuana cost \$2 to \$4 an hour instead of \$18 to \$24 in California... Real estate is much cheaper, too; storing a pallet costs \$6 to \$8 in Tijuana rather than \$15 to \$22 north of the border" (Premack 2019). According to official North American Industrial Classification System statistics provided by the United States Bureau of Labor Statistics and the Mexican National Institute for Statistics and Geography transportation and warehousing workers in San Diego made on average ten times more than their counterparts in Tijuana. In 2018 San Diego Metropolitan Area transportation and warehousing workers were compensated at \$901 a week on average while in Tijuana the average weekly wage in the transportation and warehousing sector was \$90.³⁷

Because of these factors, Tijuana is becoming a logistics city in the backyard of San Diego which offers an increasing amount of jobs domestically remunerated at a fraction of the cost of work in San Diego. Furthermore, for goods that sit in storage over long periods of time, it makes sense to store the goods in Tijuana until more supplies are needed closer to the consumer in the United States. This is because the cost of storage in Tijuana is a fraction of the rate of

³⁷ The exchange rate was calculated using the last available data in 2018. 1 Peso = 0.051 dollars.

storage in the United States. One industry expert called this “*just-in-case warehousing*,”³⁸ meaning these warehouses are giant storage facilities akin to warehouses before the just-in-time era that were meant for storage rather than fast circulation. These types of warehouses have become more necessary since the supply chain crisis during the COVID 19 pandemic. These warehouses function as the attic of San Diego in that they store goods until they are needed by consumers in the United States. Once circulatory warehouses in the United States get low on products the warehouses in Tijuana can be used to restock the United States warehouses meant for just-in-time circulation. A deeper engagement with just-in-case warehousing is taken up in the chapter 3.

Gendered Borders in the Transportation and Warehousing Sector

While the geopolitical boundary segments the labor market and is a tool for capital accumulation in the San Diego-Tijuana metropolitan area it is not the only boundary dividing social groups in the labor market of the region. Gendered borders in the transportation and warehousing sector, while not necessarily serving the purposes of capital in the same way as the geopolitical border, are operationalized in the labor market and make entrance into the trucking sector difficult for women. They also relegate women to certain tasks in the warehousing sector that make it difficult for women to get promotions. In total in the United States men earn far more than women in the transportation and warehousing sector. According to the American Community Survey men’s median income in the transportation and warehousing sector in the United States is \$50,781 on average over the past five years. Women’s median income on the other hand is less than half of what the men make. The median income of women on average

³⁸ Personal interview with author, June 10, 2022.

over the past five years in the transportation and warehousing sector is \$19,167 (United States Census Bureau 2022).

The two main sub-sectors for transportation and warehousing occupations in the San Diego-Tijuana area are trucking and warehousing. While trucking remains a masculine profession warehousing has a close to even split between men and women. However, there are gendered divisions of labor within the warehouse. According to Sheheryar Kaoosji, the executive director of the warehouse worker resource center in Southern California:

There are plenty of women in warehousing. I don't know if it's 50%, but it's pretty close across the workforce. But the way it clusters up is interesting. There are some facilities that tend to have a lot of final processing, sorting, packaging, the smaller work, right? Women are given that work. Their hands are smaller, or whatever that theory is. [They do] garment stuff, a lot of putting stuff on hangers. When you see places that are all women it's normally tied to the garment industry, even though it's not produced here anymore. It's kind of the descendant of that, like a TJ Max kind of facility, right? Or any kind of facility for a garment producer that is now an importer. It still retains that gendered labor and it's nearly 100% women, except for the managers.... And then, yeah, the stuff that's considered more male work like the forklift driving, the throwing of boxes in more traditional kind of warehouses, that work doesn't entirely go to men, but it tends to have more men... Then, there's the caveat that women aren't going to get moved up. The forklift is usually the first step up after you've gotten hired, and women tend to rarely get those positions. and from there you get to a lead and then potentially a management position.³⁹

Here Sheheryar is saying that even though the split between men and women in the warehouse is nearly half and half women are still assigned specific tasks in a gendered division of labor. These

³⁹ Personal interview with author, August 4, 2022.

tasks are less likely to make them eligible for promotion. This was substantiated by George, a worker and labor organizer at the Amazon facility in Otay Mesa. According to George:

I think it is pretty well documented especially in Fulfilment Centers [at Amazon] the majority of the workers are Hispanic women. They are primarily pickers, so they are doing a lot of the physical taking items off of the keeper robots and putting them onto a conveyor belt which is physical and hurts your back and they are at the stations counting. The younger men are typically doing the tote running where you are essentially moving boxes from one side to another and making sure that everyone has the totes to work or to continue working.⁴⁰

These divisions of labor within the same facilities at Amazon have been reported to hurt women's chances of climbing the corporate ladder as well.⁴¹

Not only are there divisions of labor within the sub-sector of warehousing, but there are also splits between the two sub-sectors—trucking and warehousing. Trucking is a difficult industry to get into as a woman for multiple reasons. First, to get into trucking often truckers must take the least desirable jobs at first as long haul truckers. These jobs have long hours and require workers to be away from their families. Because women in many families are expected to take on a double shift of raising kids and doing household tasks along with working to help the family stay financially above water, they are often funneled into warehousing rather than trucking where hours are more consistent. According to a woman organizer for the Teamsters Local 542 in San Diego, Nicole Moreno:

⁴⁰ Personal interview with author, July 29, 2022.

⁴¹ Personal interview with author, August 4, 2022.

You are there in the day taking care of the kids and then at night you go in and your husband gets to take care of the kids sleeping. It works as a dynamic because unfortunately more and more as a married family the wife and husband both have to work so that dynamic allows the female that is a mom or head of the family the ability to still make the money to take care of their family and provide for them... The shifts can be a little better. You are going to the same place doing the same thing so it just kind of as a female it is a better situation for you to be accessible to your homelife, whereas driving trucks you are pulled away from it.⁴²

In this example, women are forced to make a choice to work in the warehouse rather than in another sub-sector due to the regularity of shifts. In this case working an overnight shift to take care of her kids during the day. Here women are both responsible for being a part of the production process for the family to earn a wage high enough to reproduce itself as well as are responsible for the work of social reproduction at home. These women effectively work a double shift. Work in the social reproduction process can result in high turnover rates for women at work (see Wright 2006:72-76).

Furthermore, trucking is a dangerous profession in which truckers are on the road in remote areas where they need to get rest. According to Shaun Martinez, an organizer at the International Brotherhood of Teamsters:

It's really freaking dangerous, you are out on the road alone. You got to sleep on the side of the road sometimes. And again, that's not every trucking job out there, but to get your feet in the industry that's what you have to do... and you know, most women probably don't feel safe having to do that. You know?⁴³

⁴² Personal interview with author, September 7, 2022.

⁴³ Personal interview with author, August 23, 2022.

Here the specter of sexual assault while on the road is implicitly raised as something barring women from making the choice to go into the trucking sector. Women's bodies are seen here as inherently vulnerable and sexualized making women a target for predatory men.

Even when women do shatter the “steal ceiling”⁴⁴ (Alimahomed-Wilson & Alimahomed-Wilson 2016) and make it into the trucking sector they face difficulties for a variety of reasons. First, because the trucking sector is masculine dominant, women do not have the proper facilities at the places they work. According to Nicole Moreno at the International Brotherhood of Teamsters:

you have this huge locker room for the guys, and women just have a bathroom to change or washup or to do anything whereas the guys can do whatever in this huge locker space... One particular female driver, she always had to wait basically to go and change or to go and do whatever she needed to do because they figured ‘we are men we have the larger amount of people so we will do our stuff first as far as washing up or changing uniforms and whatever and then she can do it after.’ So, she had to come to work early and leave later because of that. Now, that was a non-union facility she was working for.⁴⁵

Here a company without a union failed to provide adequate facilities for their women drivers.

This effectively forced this woman driver to work longer shifts due to needing to wait to use the facilities. On the road at truck stops this normally would be largely the same.⁴⁶

⁴⁴ The “steal ceiling” is a concept developed to expand upon the concept of the glass ceiling—an unofficially acknowledged barrier to advancement in a profession, especially effecting women and people of color. The steal ceiling is the same unofficially acknowledged barrier that exists within hyper-masculine blue-collar sectors that effect women, particularly women of color. The concept was originally developed by Alimahomed-Wilson and Alimahomed Wilson (2016) in their study of women of color working at the ports of Los Angeles and Long Beach.

⁴⁵ Personal interview with author, September 7, 2022.

⁴⁶ Ibid.

Because trucking is such a masculine dominant profession, women drivers are at times bullied by the men drivers. Women drivers will often be called names and have their womanhood and sexuality called into question.⁴⁷ One woman driver was bullied so terribly by her male counterparts that she began to have anxiety attacks and mental breakdowns at work. This eventually led her to quit and find work elsewhere.⁴⁸

Conclusion

In this chapter I discussed the way in which the United States-Mexico border is used both as a dividing line and a malleable legal concept. The difference created through bordering in terms of spatial, cultural, and legal differentiation is useful to think through the centrality of difference—national, gendered, racial, classed—to the accumulation of capital. To situate this case in its historical context I mapped the changing contours of United States trade law over the last century that set up this specific mechanism of supply chains at the border. I then detailed how the border is used to mitigate tariffs. As an illustrative example the geography of the Section 301/Section 321 supply chain nexus was traced in order to show how Mexican warehousing is used in order to mitigate tariffs in trade between the United States and China in the e-commerce sector. The case of warehousing in Tijuana was further complicated by the fact that there is no major industrial port in Baja California and no major Mexican port connected by sufficient infrastructure to Tijuana. Because of these limitations, goods from across the Pacific need to enter North America through the twin ports of Los Angeles and Long Beach for those goods to circulate through Tijuana. To make this work the border is reinscribed on trucks through bonding cargo as they move down highways in the United States. Once goods enter Tijuana, they are

⁴⁷ Ibid.

⁴⁸ Field work observation, May 19, 2021.

imported under special legal status to not trigger tariffs in Mexico. These goods have not legally entered Mexican customs territory since they are intended to be re-exported.

Furthermore, I claimed that Tijuana is turning into the bedroom and attic of San Diego. Tijuana is the bedroom of San Diego because it offers cheap housing for those working in San Diego. This is a tool at the disposal of capitalists in class war. First, it cheapens the cost of the social reproduction of capital by lowering the absolute minimum wage required for the reproduction of the working class. Next, the ability to hire a legally constructed second class set of workers from Mexico and the threat of being fired from working in the United States and having to work on the other side of the border in Tijuana puts pressure on those who have jobs in San Diego not to organize at work. In this way the border serves as a disciplining mechanism and a boot against the demands of the working class. By looking at the labor market in the border region we get an understanding that is different than an analysis of split labor markets in those labor markets created by the citizenship status of migrant workers working further in the United States. In the case of the border region labor market, an increased industrial reserve army in Mexico and the prospects of working on the Tijuana side of the labor market disciplines workers and hinders pay and organizing potential. Tijuana is the attic of San Diego because companies are increasingly storing goods in warehouses on the Tijuana side of the border in order to cut costs. This is because the cost of industrial real estate and labor is a fraction of the cost in Tijuana as compared to San Diego. In these ways the border is a mechanism that benefits the capitalist class and hinders labor.

Lastly, I discussed how gendered borders impact women in the transportation and warehousing sector. While warehousing jobs are close to evenly split between men and women there is a gendered division of labor in the warehouse that limits the possibility of promotion for

women. In the trucking sector there are very few women because of patriarchal barriers to entry into the trucking labor market. When women do break into the trucking sector, they face harsh working conditions due to less than adequate facilities as well as face sexism and bullying from men drivers.

In the next chapter I now turn my attention to logistics centered urban development in the San Diego-Tijuana metropolitan area. I specifically investigate the temporal, historical, and relational dimensions of increased warehouse construction, trucking, and logistics employment in the region.

Chapter 3 – Supply Chain Urbanization: Just-In-Case Warehousing in San Diego-Tijuana

Since the implementation of the Border Industrialization Program in 1965 the region around the United States-Mexico border has rapidly urbanized. The urbanization has taken a specific spatial form in which multicity transnational urban systems straddle the border. These city systems include the San Diego-Tijuana, El Centro-Mexicali, Tucson-Nogales, El Paso/Las Cruzas-Ciudad Juárez, Laredo-Nuevo Laredo, McAllen-Reynosa, and Brownsville-Matamoros urban regions. A map of these cities can be seen below in figure 3.1. Uneven development between the United States and Mexico sides of the city systems, economic interconnection across the border through trade and labor migration, as well as the nested positionality of each urban system within global networks of production and distribution have defined the role each region plays within a wider world city system and the international division of labor.⁴⁹

The geographic pattern of industry in the border region since 1965 has centered around the twin plant system. In this system manufacturing plants or *maquiladoras* were located on the Mexican side of the border where cheap labor to produce United States consumer goods could be accessed and exploited at higher rates. According to Wright (2006:7) in 1965 Mexico's border towns were the official birthplace of Mexico's export-processing industries. These *maquiladoras* quickly gained international recognition for low-cost high-quality manufacturing. *Maquiladoras* grew so quickly that by the 1980s Anzaldúa noted (1987:32) that "One-fourth of all Mexicans work at *maquiladoras*; most are young women." And that "Next to oil, *maquiladoras* are

⁴⁹ Friedman (1986:69) argues that a world city system is the spatial organizing logics of the new international division of labor. According to Taylor (2004:22), "Cities are where corporations organize production and plan market strategies." The economic linkages of different parts of the production and distribution process between cities create a complex spatial hierarchy between these cities in the world-system (Friedman 1986; Taylor 2004).

Mexico’s second greatest source of US dollars” [emphasis original]. A decade later Cravey (1998:2) documents, “For more than a decade, *maquiladora* export-assembly has been the fastest growing sector of the economy, surpassing the rates of expansion of oil production and tourism” [emphasis added].

Figure 3.1: Map of United States-Mexico Border Cities⁵⁰



Taken from González de Bustamante and Relly 2015

These manufacturing facilities—*maquiladoras*—were paired with corporate offices that managed the factories and warehouses that circulated the goods post-production on the United States side of the border (Herzog 1991;2018). Over the past several years the spatial distribution of economic activity in some of these urban systems in the border region has begun to change. In the past decade there has been a boom in warehousing operations on the Mexican side of the border in some of these city systems (Premack 2019). In Tijuana and San Diego, rather than offsetting warehousing operations on the United States side of the border the boom in Mexican

⁵⁰ Due to having a combined population of under 500,000 people Yuma-San Luis Rio Colorado is not included in the analysis. The other seven city systems on the map have combined populations over 500,000.

border warehousing has been matched by a concurrent growth in United States border warehousing. The result of this new spatial distribution of economic activity in the United States-Mexico borderlands in Baja California-California resembles a twin warehousing system.⁵¹ Accompanying the rise in warehousing operations on both sides of the border has been a consistent rise in cross-border commercial traffic via trucks over the same period. Trucking has been the primary conduit of exchange between Mexico and the United States for the duration of the cross-border urban systems relationships, but over the past ten years it has risen substantially. However, these changes are felt unevenly across space with some of the United-States Mexico border cities capturing the flow of goods and developing logistics functions while others have not. In some of the cases transportation and warehousing employment has grown significantly on both sides of the border, in others it has only grown on one side of the border, and yet in others it has not grown substantially at all.

The aim of this chapter is to understand why the San Diego-Tijuana urban system is becoming a logistics city – meaning the San Diego-Tijuana urban system is developing entirely new functions through warehouse construction and transportation infrastructure that are attracting global flows of commerce. The San Diego-Tijuana city system has grown at rates faster than the national and industry growth rates in the logistics sector in both Mexico and the United States over the past decade. The cross-border urban system has had similar growth rates in the logistics industry on both sides of the border, meaning warehousing and other material moving jobs are not simply being nearshored to Tijuana, but rather transportation and warehousing occupations are connected across the border along the same supply chain.

⁵¹ It should be noted that the Mexican border economy still does have a robust manufacturing economy that has grown over the past decade as well. Part of the reason that Mexican border warehousing is growing is due to the border regions manufacturing economy.

Furthermore, the San Diego-Tijuana urban system's transportation and warehousing sector is growing at faster rates (excluding Mexicali) and with more regional specificity than the other cross-border urban systems at the United States-Mexico border.

To analyze the logistics centered urban development in the San Diego-Tijuana city system I use quantitative data analysis, primary document sources, interviews with stakeholders in the region, as well as participant observation at meetings with stakeholders in the region. I use San Diego-Tijuana as my site of study (Riofrancos 2021), viewing the city system as an interconnected urban region that is enmeshed in larger processes of globalization. I also use comparison across time and space. I compare the San Diego-Tijuana urban system with itself overtime noting the profound change in logistics centered urban development that has happened over the past decade. I also compare San Diego-Tijuana with other urban systems that straddle the United States-Mexico border. As stated above, in some cases, there has been significant growth on one side of the border or significant growth on both sides of the border, while in others there has been no significant growth or degrowth. Comparing across multiple axes gives analytical leverage for understanding why the San Diego-Tijuana region's logistics sector is growing at such a fast rate on both sides of the border. At the end of the chapter an overview of the effects that logistics centered urbanization is having on Latinx communities in the border region is discussed. This is done to shed light on the negative impacts of supply chain urbanization which is often proposed as an antidote for deindustrialization. The reason the Latinx community is used is because it is Latinx people that largely make up the community that live in the border region.

Border Economies, World Cities, and Supply Chain Urbanization

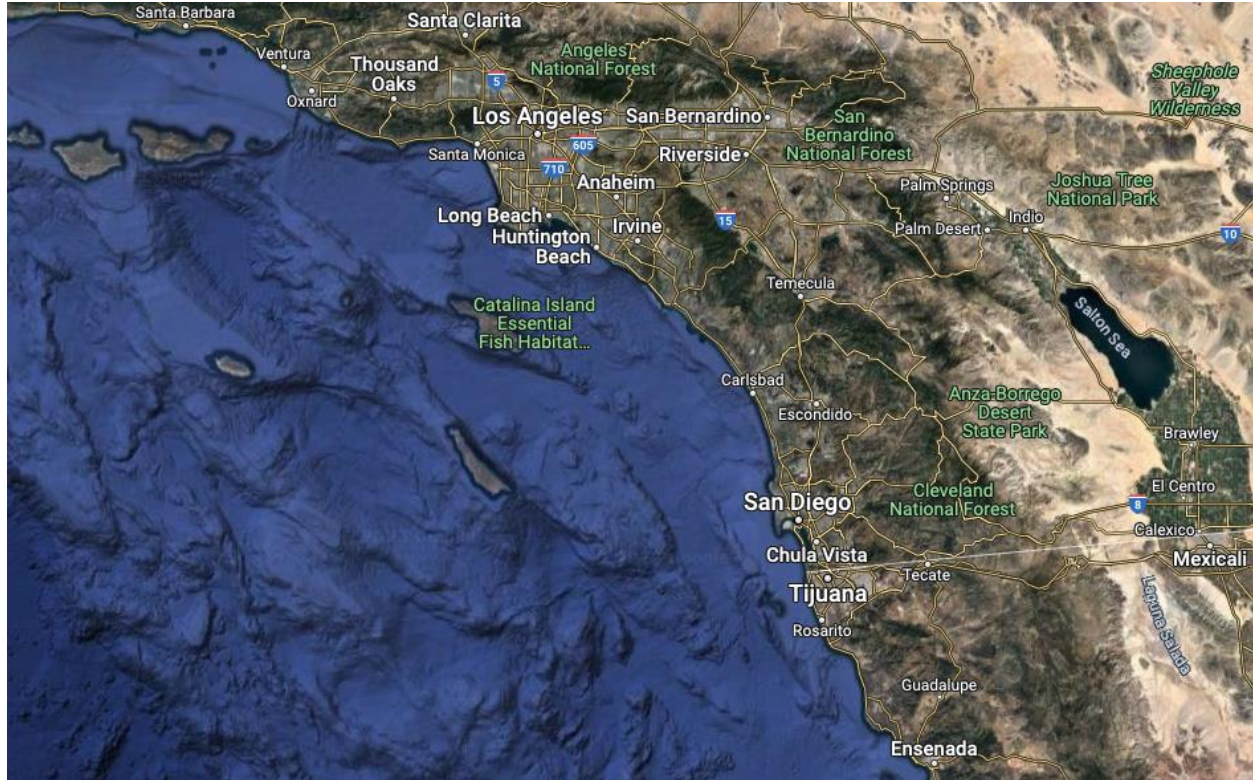
In a long process starting at the end of the 15th century which included the rise of nation-states, political borders, and the capitalist world-system came the current iteration of a world city-system in which particular cities developed functions in relation to other cities and raw material peripheries (Abu-Lughod 2017; Sassen 2002; Smith 1996). The positionality (Sheppard 2002) of these cities was often where land meets sea—a seaport—or connected to the sea via inland water channels and later railways and highway infrastructure—an inland port. Cities in this system generally developed as costal trading ports or in the interior of nation-states far from the land borders that separated one nation-state from another. In the last half of the 20th century this began to change. According to Herzog and Sohn (2014:442), “We have entered a new global age where property at the edges of nations can attract investors, businesses and governments. Industrial parks, highways, rail systems and airports that once bypassed international frontiers are relocated there.” They call these urban systems cross-border metropolises or transfrontier metropolises (Herzog 1991; Herzog 2018; Herzog and Sohn 2014). They note that “In a globalizing urban world, cross-border metropolises are important spatial configurations that reflect the interplay between the space of flows and the space of places” (Herzog and Sohn 2014:441).

This is because cities on the border attract cross-national flows of goods, services, and labor that transcend the geopolitical border. At the same time these cities leverage their strategic geography defined by their place within a geopolitical boundary (Sohn 2014). Both the flow of cross-border economic activities and their positionality within a nation-state that is differentiated from the neighboring city define the function of the urban region. Sparke (2018) has pointed out that rather than seeing globalized economics as superseding the logics of state sovereignty, it is

more instructive to think of these two logics as constantly enmeshed in a dialectic—implying a back-and-forth, mutually reinforcing but also contradictory relation. The transfrontier metropolis represents this contradiction within the physical space of a city.

Urbanization at the geopolitical border leads to economic regions where specific economic functions are performed on either side of the border due to place-based differences in the costs in production. These border economic zones attract specific types of integrated economic activities, worker migrations, and special types of regulation (Arnold and Pickles 2011). Dear and Lucero (2005:319), define these economic agglomerations as postborder cities. They say, “In formal terms, a postborder city may be defined as a collection of two or more urban areas that exist in relatively close geographic proximity and are bisected by an international boundary, yet they function as a single, integrated urban agglomeration.” The seven cities that sit at the United States-Mexico border—San Diego-Tijuana, El Centro-Mexicali, Tucson-Nogales, El Paso/Las Cruces-Ciudad Juárez, Laredo-Nuevo Laredo, McAllen-Reynosa, and Brownsville-Matamoros—are prime examples of these urban agglomerations. Dear and Lucero (2005) argue that the Baja California-California mega region represents one urban region from Ensenada up to Central California encapsulating Tijuana, San Diego, Los Angeles, Riverside, San Bernardino, Orange County, Imperial Valley, Mexicali, and Santa Barbara. They call this postborder space “Bajalta.” A map of this urban region is depicted below in figure 3.2.

Figure 3.2: Map of “Bajalta”



Authors illustration of Bajalta. Source: Google Maps.

Another set of literature discusses the rise of global cities. Global cities are a relatively new type of urban formation that have distinct socio-spatial relations with other cities. They offer transnational banking services, digital technology services, and management centers for global production and distribution (Sassen 2002; Sassen 2007). Gordon (1984) discusses the emergence of what he calls “corporate cities”— what would later become known as global cities — as part of a history of the changing functions of American cities overtime. He distinguishes between commercial trading centers, industrial cities, and corporate cities. Commercial trading centers existed prior to and in conjunction with the rise of capitalist relations of production, industrial cities were based on highly centralized production centers in an era of domestic manufacturing and capitalist relations of production, and corporate cities have the

global city finance and management function necessary for a fully integrated global capitalist economy. For example, Charleston, South Carolina qualifies as a commercial city in the Antebellum South (Smith 1987) while the auto manufacturing hub in the Detroit, Michigan metropolitan area in the early to mid-20th century qualifies as an industrial city (Stepan-Norris & Zeitlin 2002). Corporate cities on the other hand manage multinational production in the new international division of labor. Examples of corporate cities are Los Angeles, New York, and Chicago (Abu-Lughod 2017) where financial firms, supply chain managers, tech companies, and corporate offices make up some of the primary economic functions of the city.

If these global cities are the result of late 20th century changes in global production and distribution networks, “then the transfrontier metropolis is a distinct subcategory of the larger phenomenon...The US-Mexico transfrontier metropolis is a by-product of First World-Third World economic integration expressed within the physical space of a city” (Herzog 1991:520). In the case of the United States-Mexico cross-border urban regions the United States side had the role of both the corporate city and the commercial city due to its functions managing Mexican production as well as circulating goods postproduction. The Mexican side of the urban system had the role of the industrial city because manufacturing was performed in Mexico.

However, as newer literature across human geography, American studies, sociology, political science, and anthropology has shown cities serve yet another function in global production and distribution networks. Cities develop the capacity to attract material flows in commodity circulation and capture value-added from those logistical activities (Coe 2020; Cowen 2014; Danyluk 2019; Danyluk 2021; De Lara 2012; De Lara 2018; Hall and Hesse 2012; Hesse 2008; Hesse 2020; Negrey et al. 2011; Rossiter 2012; Smith 1996). According to De Lara (2012:75) “While most studies of globalization focus on runaway production, information

technology, the rise of financial sectors, and human mobility, scholars tend to ignore the role that expanded commodity distribution networks play in metropolitan development.” This is the case whether those commodity flows articulate with another stage of the production process such as manufacturing within the city, reach their point of sale within the city, or if the commodity leaves the city on its trajectory upstream in its production and distribution process.

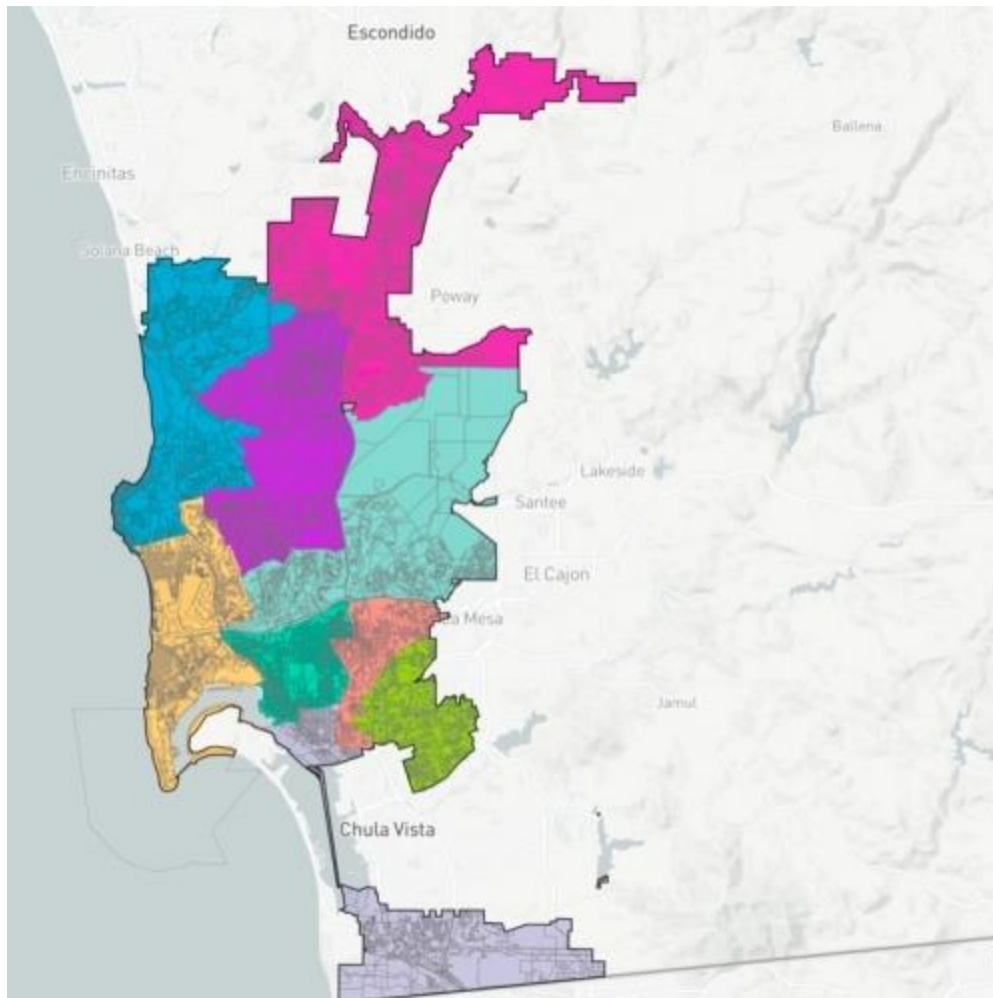
Several important studies have shown the shift to logistics centered urban development schemes in our current hyper-globalized era. Of great importance to this literature is Cowen’s (2014) distinction between *city logistics* and *logistics cities*. According to Cowen (2014:181) city logistics “acts on already constituted urban spaces, aiming to transform dense and congested cities into more controlled and efficient spaces of circulation.” Logistics cities on the other hand “entails the wholesale production of entirely new urban formations for the same purpose.” Danyluk (2021:1) distinguishes this type of urbanization as “supply chain urbanism.” He says supply chain urbanism “names the rise of a distinctive paradigm of urbanization: the production of urban space to facilitate the circulation of commodities.” Danyluk (2021:3) continues by saying “A critical engagement with the geographies of logistics, then, must also consider the distinctive modes of urbanization that are emerging in the wake of the logistics revolution.” Because there is a great need for space to build trucking lots, warehouses, container yards, logistics parks, and intermodal facilities logistics cities are often built on the periphery of already constituted cities where real estate is cheaper, the built environment is less dense, and infrastructure already exists, or new infrastructure can easily be connected to already constituted urban infrastructure networks (Cidell 2011; Rossiter 2012).

In the case of San Diego, the logistics centered urban development is currently taking place along the border in San Diego’s Otay Mesa neighborhood. Otay Mesa is completely

disconnected from the rest of the city. The cities of Chula Vista and National City sit in between San Diego's border neighborhoods and the city center of San Diego. It is impossible to get from the border region of San Diego to the rest of the city of San Diego without temporarily leaving the city. A map of this is shown below in Figure 3.3. However, Otay Mesa does sit directly adjacent to the city of Tijuana. Current logistics development in Tijuana sits on the eastern side of the city where the population is less dense and there is open space for development. The logistics corridors in San Diego and Tijuana are connected to each other through the Otay Mesa port of entry – a commercial port of entry on the United States-Mexico border on the east side of the cities. By locating in these peripheral regions of the city logistics facilities can be constructed where there is open space and cheaper real estate. However, because they are in the periphery of an urban region rather than in a rural area they can easily be connected to San Diego-Tijuana's existing infrastructure networks.

Negrey et al. (2011) argue that the logistics city is an emergent type of world city. In their study they argue that Louisville's partnership with UPS Worldport—UPS's central air hub—constitutes Louisville as a “distributive” world-city due to its central role in parcel distribution. De Lara (2018) also looks at the role of logistics in urban and regional development in Southern California's Inland Empire, east of Los Angeles. In his landmark study De Lara shows not only the change in job availability and the built environment overtime in the Inland Empire, but also how these changes constitute changing racial geographies and labor regimes in the region. Furthermore, De Lara adds that the shift towards logistics centered urban and regional development is shaped by entrepreneurial state agents embracing freight movement as an antidote for deindustrialization (De Lara 2012; De Lara 2018).

Figure 3.3: Map of San Diego Districts⁵²



Taken from The City of San Diego 2022.

State investment in the necessary infrastructure to attract material flows into a given urban region is highly speculative. This is because, as Danyluk (2019) points out, capitalism has a tendency to renders places as interchangeable. According to Danyluk (2019:100-101), “Those whose assets are relatively fixed in place, such as ports, canals, railroads and airports, must vie for business from relatively mobile actors, such as shipping lines, airlines and freight

⁵² The colored regions represent different city council districts in San Diego. The grey area is outside of the borders of San Diego. As can be seen there is a gap between the light purple district from the border to the rest of the city. In that gap is the city of Chula Vista, CA.

forwarders.” He continues, “it is this second group, with their weak ties to place, who push for greater fungibility in the logistics network... This competitive dynamic promotes a race to the bottom... driving down local revenues, environmental standards, and wages and working conditions.” Because of this dynamic, cities are put in competition with one another to capture material flows. In the context of the United States-Mexico border cities the cities are not put in competition with the neighboring cross-border city because each side has a specific role in global production and distribution networks. Rather these transnational city systems are put in competition with other city systems along the border. This contrasts to other types of competition in global production and distributive networks as cities often compete to procure specific types of economic functions with other places across national boundaries in the world-system.

Because urban growth based on logistics centered urbanization is structured around the supply chain, infrastructure investment at scales larger than the city itself are necessary to attract capital investment. According to Wachsmuth (2017a:46), “supply-chain expansion offers a structuring principle for new, emerging multi-city growth coalitions.” Because supply chain expansion needs the intensification of infrastructure investment and therefore an intensification of *circulatory possibilities* in an entire region, multiple cities must come together to form an “infrastructure alliance” (Wachsmuth 2017a;2017b). This is not an entirely different phenomenon from Logan and Molotch’s (2007) urban growth machine in which land use intensification is the structuring principle for urban growth. Land use intensification is still needed to grow the logistics city. In fact, Hesse (2004) finds that logistical real estate markets shape local development outcomes. The difference here is that supply chain expansion happens across an entire region not just within the physical space of a city. In the case of the San Diego-Tijuana transfrontier metropolis supply chain expansion and urban growth happen across a

national boundary. Because of this cooperation is needed between cities across the border to capture logistical flows within the city system. As will be shown below, San Diego-Tijuana has regional level institutions coordinate bi-national planning projects.

A city or region's nested positionality—meaning its position in related to space/time in the global economy—within a global network of production and distribution impacts its ability to capture material flows (Hesse 2010; Sheppard 2002). Because both logistics and cross-border urban regions are inevitably transnational they need legally constructed markets to capture the flow of commodities (Orenstein 2019). This means logistics flows through cities and regions can be bolstered by policy at larger scales such as an international trade agreement. For example, Tijuana and San Diego experienced an intensification of transnational integration and circulation following the implementation of NAFTA in 1994. Cities and regions can also be hindered by the construction of new spatially connected markets that bypass them. For example, Tijuana and San Diego experienced a deintensification of integration and circulation following China's entrance into the World Trade Organization in 2001. This means that when regions make speculative investments in infrastructure to intensify circulatory possibilities through their cities and capture value-added through logistical activities, they run the risk of being substituted for another city or region within the same legally constructed market. Cities and regions can also be substituted from one another by processes of globalization opening entirely new frontiers.

The Twin Warehousing System

At roughly the same time the logistics revolution and the new international division of labor that came with it were restructuring the economic geography of the world Mexican towns bordering the United States were beginning to urbanize. The first *maquiladoras* were established

in Tijuana and Ciudad Juárez in 1966 under the border industrialization program. The typical *maquiladora* is a foreign owned labor-intensive factory engaged in the assembly of goods. According to Cañas and Gilmer (2009:10) “Maquiladoras are an extension into Mexico of U.S. production... They’re a major engine of growth in cities along the U.S.-Mexico border.” The geography of urban development in the region had to do with the proximity to United States consumer market.

As stated above, these Mexican urban centers in which the *maquiladora* plants were located are paired with a United States urban center on the other side of the border and together form a cross-border urban region. The *maquiladoras* located within these cities were meant to stimulate Mexican export industry and trade ties with the United States. Although over the past several decades NAFTA has come to the forefront of conversations on *maquiladoras*, in 1991—three years before NAFTA was implemented into law—90% of Mexican manufacturing plants were in the border region (Cañas and Gilmer 2009). These plants were paired with a warehouse and a corporate office on the United States side of the border whose functions were to move goods closer to their point of sale and manage that movement.

Although border urbanization largely began with the border industrialization program the signing and implementation of the NAFTA stimulated the urban boom along the United States-Mexico border. This was in large part due to growth in employment in *maquiladora* plants. In the early iterations of neoliberal globalization these *maquiladoras* were a primary site for the offshoring of production of consumer goods destined to the United States. However, the massive urban boom along the United States-Mexico border created by NAFTA was short lived. According to Cañas and Gilmer (2009:10) “The slowdown started with the U.S. recession in 2001. The slump converged with potent foreign competition from China, the Caribbean and

elsewhere to cut *maquiladora* employment by 298,000 jobs, or 22.1 percent, in 17 months.”⁵³

The increase in border security following the events of September 11th, 2001 exacerbated the trends brought on by the United States recession and increased global competition. This is because an increase in border security at the United States-Mexico border inhibited the seamless flow of commodities across the border created by NAFTA creating contingency in the South-North cross-border supply chain (Herzog 2009; Heyman 2012).

In 2008 as the world economy went into a huge recession the *maquiladora* economy took another massive loss. Border states dealt with much bigger losses in employment over the next year than the rest of Mexico. The border states that were hit the hardest in terms of losses in employment were Chihuahua and Baja California—the two Mexican states with the largest share of manufacturing—which had decreases of 10.4 and 7 percent in employment respectively. “The figures far outstrip the 1.6 percent decline for all of Mexico over the same period” (Cañas and Gilmer 2009:14). The remainder of the border states also had far greater losses in employment than the rest of Mexico.

Over the past decade the spatial distribution of economic activity in the border region has begun to change. First, manufacturing across the border region has started to grow again due a new nearshoring trend. This trend is part of a larger push to manufacture in Mexico that does not just include *maquiladoras* in the border region, but also includes production facilities further in the interior of Mexico (Del Bianco and Draper 2015; Piatanesi and Arauzo-Carod 2019; Schott and Goodman 2021).⁵⁴ Second, and directly related to the argument here, growth in the logistics sector took hold in some city systems across the border. These two phenomena are

⁵³ China entered the world trade organization in 2001.

⁵⁴ Del Bianco and Drapper (2015) argue that one of the primary driving forces of moving manufacturing into the interior of Mexico where transportation and labor costs are higher is the prevalence of violence in Mexico’s border cities, itself a result of relations across the border and neoliberal capitalism more generally (see Valencia 2018).

interconnected as manufacturing in *maquiladoras* in the border region as well as manufacturing further in the interior of Mexico needs logistics functions to move goods across the border. However, as argued below, logistics functions independent of production in Mexico is also generating growth in the transportation and warehousing sector on both sides of the border.

Transportation and warehousing employment grew in both Tijuana and San Diego from 2013-2018 by over 8,000 jobs in each city. Taken together the transportation and warehousing employment grew by 16,925 jobs from 2013-2018 in the cross-border urban region. This is in sharp contrast to the five-year periods preceding this gain in employment. In Tijuana employment in the transportation and warehousing sector grew by 488 jobs from 2008-2013 and only 188 jobs from 2003-2008. In San Diego employment in the transportation and warehousing sector lost 2,126 jobs from 2008-2013 and grew by 1,036 jobs from 2003-2008.⁵⁵

Beyond the general change in employment in the transportation and warehousing sector in the cross-border city system is the regional specificity of the change in employment. To measure this, I performed a shift share analysis on the change in employment in the cities from 2003-2008, 2008-2013, and 2013-2018. The reason I use this method is because a shift share analysis shows how much of the growth within a sector in a particular geography over a time period is due to general growth of the national economy (or in the case of measuring San Diego-Tijuana a bi-national economy), how much of the growth is due to growth within the sector in in the national economy, and how much of the growth is due to regionally specific factors. For that reason, shift share analysis is useful for separating regionally specific growth from other potential reasons for growth within a sector in a particular geography over a period of time. If

⁵⁵ The reason these five-year intervals are being used is due to data availability from the Mexican census. While a quantitative measurement is not used past 2018, from qualitative observations logistics development has continued in the region—most likely at a greater rate compared to the period preceding it.

growth in employment within the sector is due to national economic growth due to a national recovery from a recession that will be indicated as a national shift. If growth in employment is due to growth within the sector generally that will be indicated as an industrial shift. Lastly, if growth within the sector is due to regionally specific factors that will be indicated as a regional shift. The reason these three time periods—2003-2008, 2008-2013, and 2013-2018—are used is due to data availability. Census data on employment in the transportation and warehousing sector at the metropolitan level in Mexico is available on a five-year basis making any analysis at other yearly intervals impossible. Although data is available yearly in the United States at the metropolitan level the same years are used to control for factors that change overtime. I ran the shift share three times, once for Tijuana in relation to the Mexican national economy, once for San Diego in relation to the United States national economy, and lastly for the entire San Diego-Tijuana metropolitan area. For this last shift share on the entire San Diego-Tijuana region I used the combined United States and Mexican economy as the base rate. This means that, the shift share analysis that measures the entire cross-border metropolitan region takes into account the trajectory of the United States and Mexican economies as well as the trajectory of the transportation and warehousing industry within both countries as a single economic unit. For the shift share analyses on Tijuana and San Diego the Mexican and United States economies are used as the base rate respectively.

The findings of the first shift share analysis that measures Tijuana's change in employment in the transportation and warehousing sector in relation to the performance of the Mexico's national economy and the transportation and warehousing sector's performance within Mexico is shown below in Table 3.1. What the analysis shows is that not only did the total employment in the transportation and warehousing sector change drastically over time, but most

of the growth from 2013-2018 is due to the positionality of Tijuana rather than growth in the Mexican national economy or the transportation and warehousing sector within Mexico. From 2013-2018 Tijuana gained 8,675 jobs in the transportation and warehousing sector whereas from 2008-2013 and 2003-2008 Tijuana gained 488 and 188 jobs in the transportation and warehousing sector respectively. Of the 8,675 jobs gained from 2013-2018 in the transportation and warehousing sector in Tijuana 6,309.16 or 73% of the growth in employment was a result of regionally specific factors, 2,094.5 or 24% of the growth in employment was a result of national economic growth in Mexico, and 271.35 or 3% of the growth in employment was due to industrial economic growth in the transportation and warehousing sector in Mexico. Furthermore, regional economic growth across time is greatly varied. From 2003-2008 and 2008-2013 there is a negative regional shift with most of the gains in employment in the sector coming from national economic growth over the period. However, from 2013-2018 there is a large positive regional shift. This means that sometime between 2013-2018 the ability for Tijuana to capture commodity flows and value added through logistics activities increased substantially resulting in a large gain in employment within the sector.

Table 3.1: Shift Share Analysis: Tijuana Transportation and Warehousing Sector

Time	National Shift	Industrial Shift	Regional Shift	Total Change in Employment	Total Employment in Last Year
2003-2008	1,789.958968	-808.5030293	-793.4559391	188	7,685
2008-2013	557.56497	23.2659822	-132.83095	448	8,133
2013-2018	2,094.49508	271.345446	6,309.159474	8675	16,808

Data: Mexican Institute for Statistics and Geography

Below, in Table 3.2 largely the same trend is shown for San Diego as was shown for Tijuana. There is a dramatic increase in employment in the transportation and warehousing

sector from 2013-2018 as compared to the five-year intervals preceding it. From 2013-2018 San Diego gained 8,250 jobs in the transportation and warehousing sector whereas from 2008-2013 and 2003-2008 San Diego lost 2,126 jobs and gained 1,036 jobs respectively. Furthermore, regionally specific factors account for a larger share of the change in employment in 2013-2018 as compared to national economic growth in the United States and industrial growth in the transportation and warehousing sector in the United States. Of the 8,250 jobs gained in the transportation and warehousing sector in San Diego from 2013-2018 the regional shift accounts for 3,747.13 of the jobs or 45% of the growth in employment, the national shift accounts for 2,040.39 of the jobs or 25% of the growth in employment, and the industrial shift accounts for 2,462.49 jobs or 30% of the growth in employment. While the regional shift is less in San Diego as compared to Tijuana—implying a stronger national economy and transportation and warehousing sector in the United States as compared to Mexico or a stronger regional pull for Tijuana as compared to San Diego—the regional shift still accounts for almost half of the growth of employment in San Diego. Furthermore, the regional shift changes drastically comparing 2013-2018 to the periods preceding it. From 2003-2008 and 2008-2013 there is a negative regional shift for change in employment in the transportation and warehousing sector in San Diego. From 2013-2018, however, there is a large positive regional shift. This means that sometime between 2013-2018 the ability for San Diego to capture commodity flows and value added through logistics activities increased dramatically.

Table 3.2: Shift Share Analysis: San Diego Transportation and Warehousing Sector

Time	National Shift	Industrial Shift	Regional Shift	Total Change in Employment	Total Employment in Last Year
2003-2008	1,199.276459	532.0237712	-695.3002303	1,036	22,006
2008-2013	-44.776399	-87.301769	-1,993.9218	-2,126	19,880
2013-2018	2,040.388268	2,462.485484	3,747.126247	8,250	28,130

Data: United States Bureau of Labor Statistics

Lastly, when performing a shift share analysis on the regions combined, meaning employment in both metropolitan regions is accounted for in the model and it is compared to growth across both countries, the same trend is seen as seen in the other two shift share analyses. First, change in employment explodes from 2013-2018 as the San Diego-Tijuana cross-border region adds 16,925 jobs in the transportation and warehousing sector. This is in marked contrast to the periods preceding it. From 2003-2008 the cross-border metropolitan area only gained 1,224 jobs and from 2008-2013 the region lost 1,678 jobs. Second, the regional shift accounts for over half of the growth from 2013-2018. The regional shift accounts for 10,302.39 jobs or 61% of the growth in employment, the national shift accounts for 3,571.01 jobs or 21% of the growth in employment, and the industrial shift accounts for 3,051.6 jobs or 18% of the growth in employment.⁵⁶ From 2003-2008 and 2008-2013 there is a negative regional shift. From 2013-2018 this trend reverses and there is a high positive regional shift. This means that sometime between 2013-2018 the San Diego-Tijuana cross-border region developed the capability to capture commodity flows and capture value added through logistics activities within the urban system. While some of this growth is due to growth within the sector and recovery within the

⁵⁶ Because shift share analysis measures growth in employment based on a region within a larger region it normally uses a nation-state as the base rate. Because of this the rate of total economic growth is termed the “national shift.” For this shift share analysis the national shift is actually capturing the growth transnationally in both the United States and Mexico.

national economies following the recession of 2008-2009, we see that the regional shift far outpaces the national and industrial shifts from 2013-2018. This means that regionally specific factors account for more of the job growth than these other factors. This is documented below in Table 3.3.

Table 3.3: Shift Share Analysis: San Diego-Tijuana Transportation and Warehousing Sector

Time	National Shift	Industrial Shift	Regional Shift	Total Change in Employment	Total Employment in Last Year
2003-2008	2,308.753414	232.2801143	-1,317.033528	1,224	29,691
2008-2013	273.781868	-103.42561	-1,848.3563	-1,678	28,013
2013-2018	3,571.011966	3,051.597833	10,302.3902	16,925	44,938

Data: United States Bureau of Labor Statistics & Mexican Institute for Statistics and Geography

The question remains: why do transportation and warehousing occupations in the region rise so substantially from 2013-2018 and why is this regionally specific to the San Diego-Tijuana urban system? According to the literature within the domain of critical logistics studies, supply chains expand and intensify due to several factors including changes in commercial traffic patterns (Danyluk 2021), the legal construction of new supply chain geographies due to changes in trade law (Orenstein 2019), macro-structural shifts in industry power due to changes in firm dominance and consumption patterns (Bonacich and Wilson 2006; Alimahomed-Wilson and Reese 2020), speculative investments in infrastructure (De Lara 2018; Wachsmuth 2017a;2017b), and supply chain efficiencies and contingencies (Cowen 2014; Rossiter 2016). Each of these themes will be explored below in relation to the San Diego-Tijuana urban system.

Changes in Commercial Traffic Patterns Across the San Diego-Tijuana Border

An obvious reason cities become hubs for logistics is because commercial traffic via ships, rail cars, trucks, airplanes, etc. circulate through urban regions. When goods are circulated through an urban region public and private infrastructure such as highways and rail lines, land for logistics such as container yards, fixed capital in the form of major distribution centers and intermodal facilities, and an immense amount of labor are required to get goods where they need to go. In the case of the San Diego-Tijuana border region the changes in commercial traffic overtime can be measured via the land ports of entry that divide the city system. This is because the city system does not have a major ocean port of its own—Tijuana does not have a port and San Diego has a small port without deep water capabilities. Therefore, the primary international trade gateway in the city system is the land ports of entry between San Diego and Tijuana.

The San Diego-Tijuana urban system has three ports of entry—San Ysidro, Otay Mesa, and Tecate. A map of these crossings can be seen below in figure 3.4. The San Ysidro port of entry is consistently one of the busiest ports of entry in the world. It handles a great deal of commuter traffic as well as tourism traffic.⁵⁷ The port of entry is so busy that in 1983 there was a second port of entry opened to facilitate the flow of commercial traffic 5 miles to the east at Otay Mesa. Since then, Otay Mesa has become the primary commercial entry point for trade between the two cities in the larger urban formation. San Ysidro is no longer used as a commercial point of entry due to the high levels of traffic and congestion at the crossing. Surrounding the Otay Mesa port of entry are major distribution centers, container yards, logistics parks, and trucking

⁵⁷ Commuters often walk across the border to save time and take the San Diego trolley system to their jobs in San Diego. One day while leaving Tijuana around 5:30PM I waited for the trolley at San Ysidro to make my way back to my home 10 miles north in San Diego. When the trolley arrived hundreds of people got out of a packed trolley car to make their ways back to their homes in Tijuana. On my way back to San Diego the trolley was nearly empty. When I unfortunately missed my stop, having to exit and get on a trolley the opposite way from one station north of where I needed to go, the trolley was again packed. This showed the one-way nature of commutes in the cross-border urban system (field work observation, November 18, 2022).

lots where United States and Mexican truckers can swap containers for the goods that cross the border. On the Tijuana side of the border there are also major manufacturing facilities located adjacent to the crossing. Lastly, Tecate to the east of Tijuana and San Diego handles a minor amount of commercial traffic due to less than adequate infrastructure connecting the port of entry to San Diego. Because of these factors this analysis will focus on changes in commercial traffic across the Otay Mesa port of entry. Also, because commercial rail transport is so minor as to be almost non-existent in the region,⁵⁸ I analyze changes in cross-border commercial traffic by looking at the change in the number of trucks that cross the border. This analysis is done of trucks crossing the border from the South to the North because the research is primarily interested in the international logistics of consumer goods, which primarily circulate from Mexico to the United States.

Figure 3.4: Map of Border-Crossings in the San Diego-Tijuana Metropolitan Region⁵⁹

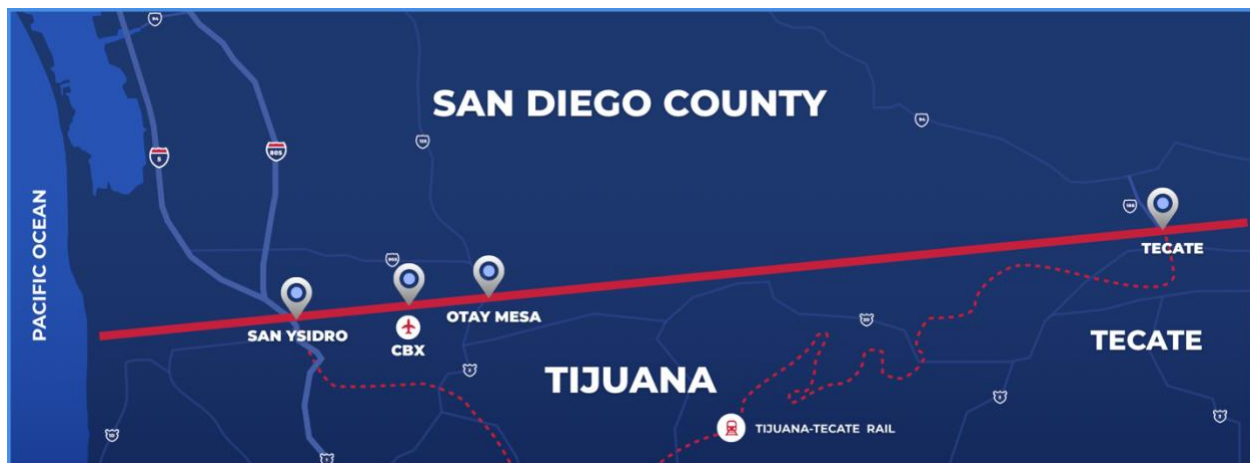


Photo from Smart Border Coalition

⁵⁸ The only commercial rail system runs east from Tijuana to Tecate where it crosses the border. This rail system does not go to San Diego, but rather to Imperial County, CA north of Mexicali.

⁵⁹ See below for explanation of CBX crossing.

To make this comparison I first investigate each period internally — 2003-2008, 2008-2013, and 2013-2018 – meaning I analyze the changes across the time interval that may be relevant to the change in employment in the region’s sector over that time. Then I investigate across the time periods to find variation that may be correlated with the differences in employment in the transportation and warehousing sector across time shown above. In these analyses I use the change in employment across the entire cross-border urban system because the measure for commercial traffic crosses the border from one city to the other.

From the years 2003-2008 commercial truck traffic across the border generally increased from year to year outside of 2006-2007 when there was a reduction of 10,707 truck crossings. Overall commercial traffic increased by 79,820 trucks from the beginning to the end of the period or by 11.4%. All of this is documented in Table 3.4 below. This moderate rise in commercial traffic is consistent with the moderate rise in transportation and warehousing occupations in the San Diego-Tijuana urban system over the same period. From 2003-2008 the region gained 1,224 jobs in the sector.

Table 3.4: Truck Crossings at Otay Mesa Port of Entry 2003-2008

Year	Truck Crossings	Total Annual Change	% Change
2003	697,152	-	-
2004	726,164	29,012	4.2%
2005	730,253	4,089	0.6%
2006	749,472	19,219	2.6%
2007	738,765	-10,707	-1.4%
2008	776,972	38,207	5.2%
Total	4,418,778	79,820	11.4%

Data: United States Bureau of Transportation Statistics

From 2008-2013 truck crossing decreased by 7,086 trucks or 0.9%. Most of this drop happened at the beginning of the period in 2009 and is most likely associated with the 2008-2009 global recession. As stated above, the global recession had a massive negative effect on Baja California manufacturing. After 2009 there is a consistent rise in truck traffic followed by a small decrease in 2013. All of this is documented below in Table 3.5. This moderate drop is consistent with the decrease in transportation and warehousing employment in the San Diego-Tijuana urban region over the same period. From 2008-2013, 1,678 jobs were lost in the transportation and warehousing sector in the cross-border metropolitan area.

Table 3.5: Truck Crossings at Otay Mesa Port of Entry 2008-2013

Year	Truck Crossings	Total Annual Change	% Change
2008	776,972	-	-
2009	684,425	-92,547	-11.9%
2010	729,605	45,180	6.6%
2011	744,929	15,324	2.1%
2012	778,929	34,000	4.6%
2013	769,886	-9,043	-1.2%
Total	4,484,746	-7,086	-0.9%

Data: United States Bureau of Transportation Statistics

From 2013-2018 truck crossings increased by 192,691 trucks or 25%. This dramatic rise in trucking across the border is consistent with the rise of 16,925 jobs over the same period in the transportation and warehousing sector. The most growth in cross-border trucking over this period happened from 2015-2016—the year following the signing and implementation of the Trade Facilitation and Trade Enforcement Act of 2015—when truck crossings grew by 69,388

crossings or 8.2%. This is important because the Trade Facilitation and Enforcement Act raised the *de minimis* value of Section 321 imports from \$200 to \$800 making the use of the special type of importation by e-commerce companies more practical (this is discussed in detail in chapter 2). According to a report done by the San Diego Association of Government’s (SANDAG) Committee on Binational Opportunities, (2017) “In 2016, northbound truck crossings through Otay Mesa reached 899,336 trucks – its highest level.” Truck traffic continued to rise after 2016, but not at as quickly of a rate year over year. All of this is shown below in Table 3.6.

Table 3.6: Truck Crossings at Otay Mesa Port of Entry 2013-2018

Year	Truck Crossings	Total Annual Change	% Change
2013	769,886	-	-
2014	810,193	40,307	5.2%
2015	829,581	19,388	2.4%
2016	899,336	69,755	8.2%
2017	929,614	30,278	3.4%
2018	962,577	32,963	3.5%
Total	5,201,187	192,691	25%

Data: United States Bureau of Transportation Statistics

To summarize commercial truck traffic at the Otay Mesa border crossing increased by 79,820 trucks from 2003-2008, decreased by 7,086 trucks from 2008-2013, and increased by 192,691 trucks from 2013-2018. The changes in commercial truck traffic across the border from Tijuana to San Diego is consistent with the changes in employment in the transportation and warehousing sector in the region over the same time periods. From 2003-2008 1,224 jobs were gained in the transportation and warehousing sector in San Diego-Tijuana. From 2008-2013

1,678 jobs were lost in the transportation and warehousing sector in San Diego-Tijuana. Lastly, from 2013-2018 16,925 jobs were gained in the transportation and warehousing sector in San Diego-Tijuana. This is summarized in Table 3.7 below.

Table 3.7: Truck Crossings at the Otay Mesa Port of Entry and Employment in the Transportation and Warehousing Sector in San Diego-Tijuana

Year	Changes in Truck Crossings	Changes in Employment
2003-2008	79,820	1,224
2008-2013	-7,086	-1,678
2013-2018	192,691	16,925

Data: United States Bureau of Transportation Statistics; United States Bureau of Labor Statistics; & Mexican Institute for Statistics and Geography

Next, I turn to a cross time comparison. For this model I measure total crossings across the period. For each period I start with the year after the initial year in the period and go through the last year for the interval of time in question. For example, when measuring truck crossing from 2003-2008 I start with the amount of commercial truck crossings in 2004 and go through 2008. This is because I want to capture the change in commercial traffic as it relates to the amount of employment in the sector in the last year, meaning I need the last year to be included in the interval. As to avoid double counting years from one interval to the next I start the next time interval with the following year when measuring the change. I also, calculated the total crossing for the five years preceding 2003 to have a base rate to compare 2003-2008 with.

As is shown in Table 3.8 below, changes in commercial traffic across the Otay Mesa port of entry are consistent with the change in employment in the transportation and warehousing sector in the San Diego-Tijuana region. An increase of 249,810 truck crossings from 2003-2008 as compared to 1998-2003 is consistent with an increase in 1,224 jobs created in the

transportation and warehousing sector from 2003-2008. Next, a decrease of 13,825 truck crossings from 2008-2013 as compared to 2003-2008 is consistent with the loss of 1,678 jobs in the transportation and warehousing sector from 2008-2013. Finally, a substantial increase of 732,527 trucks from 2013-2018 as compared to 2008-2013 is consistent with the large gain in employment in the transportation and warehousing sector of 16,925 jobs from 2013-2018.

Table 3.8: Change in Truck Crossings at Otay Mesa and Employment in San Diego-Tijuana's Transportation and Warehousing Sector

Years	Total Truck Crossings	Total Difference in Truck Crossings	% Change in Truck Crossings	Total Change in Employment
1998-2003	3,471,816	-	-	-
2003-2008	3,721,626	249,810	7.19537	1,224
2008-2013	3,707,774	-13,852	-0.3722	-1,678
2013-2018	4,431,301	723,527	19.51378	16,925

Data: United States Bureau of Transportation Statistics; United States Bureau of Labor Statistics; & Mexican Institute for Statistics and Geography

While there is not a large enough sample size to get statistically significant results while testing for correlation between truck crossings and employment in the transportation and warehousing sector the tabular data appears to be consistent. This makes logical sense because when more goods move across the border in trucks more labor needs to be added in the urban region to circulate those goods. While the intensification of goods circulation may be a result of more consumer power in the market due to a growing national economy or be a result of job creation in the transportation and warehousing sector generally, it was shown through shift share analysis that from 2013-2018 there is a substantial rise in regionally specific job creation in Tijuana, San Diego, and the San Diego-Tijuana region. This means that San Diego-Tijuana is capturing commodity flows rather than other places. While changes in commercial traffic across

the border in relation to changes in employment in the transportation and warehousing sector show that there appears to be a correlation between the two it does not show why there has been a change in cross-border commercial traffic over the period. For that I turn to the legal construction of international markets via trade law, the shift to e-commerce in consumption patterns, infrastructure investment in the border region, and supply chain contingencies and efficiencies.

Changes in Trade Law

Most attention on trade between the United States and Mexico has focused on the North American Free Trade Agreement (NAFTA) and the United States-Mexico-Canada Agreement (USCMA). This is for good reason. These two trade deals have been a big part of structuring the relationship between the United States and Mexico and therefore shaping the border region. According to an interview I conducted with renowned journalist, political theorist, and activist David Bacon who has spent years writing about the relationship between the United States and Mexico:

I think the trade deals have made the movement of goods across the border easier which facilitates production in Mexico for a market in the United States. To that extent it sort of increases the importance of the export-oriented industries in Mexico and overtime... what you see is the transformation of the Mexican economy from one in which it basically produced for consumption in Mexico to an economy that produces for consumption in the United States to a large degree.⁶⁰

⁶⁰ Personal interview with author, August 17, 2022.

However, neither NAFTA nor USMCA give a causal reason for the increase in commercial traffic across the border shown in the previous section, which had a considerable spike in 2016. Nor can the aforementioned trade agreements explain the increase in employment in the transportation and warehousing sector from 2013-2018. NAFTA undoubtedly increased commercial traffic across the border, but it had been doing so since its implementation in 1994. Therefore, NAFTA does not explain the variation between 2003-2013 and 2013-2018. Furthermore, USMCA was not implemented into law until 2020 and therefore could not have impacted the increase in commercial traffic across the border and employment in transportation and warehousing sector in the region from 2013-2018 outside of firms possibly forecasting forthcoming political changes.

Trade relations between the United States and other nations also cannot explain the increases seen between 2013-2018. When it comes to Mexican exports to the United States the number one competitor is China followed by a host of other countries across the Pacific. As mentioned in the prior chapter the Section 301 tariffs levied on China have created increased demand on both manufactured goods originating in Mexico as well as routing goods produced in China through Mexico ultimately to end up back in the United States. However, this increase began at the end of the 2013-2018 period. Trucking had its biggest increase in 2016, two years before the Section 301 were enforced on China. While the Section 301 tariffs on Chinese imports undoubtedly have increased commercial traffic across the border following 2018 they still cannot explain the substantial growth between 2013 and 2018, outside of firms forecasting the coming trade war.⁶¹

⁶¹ According to Paul Berger (2023) of *The Wall Street Journal*, “Even before the Covid-19 pandemic sparked a global shortage of shipping containers and a surge in ocean shipping costs in 2020, automotive-parts supplier Premium Guard Inc. was concerned about sourcing U.S.-China relations and had been working on bringing some production closer to home.”

The trade law of importance that was signed into law in the United States during 2013-2018 was the Trade Facilitation and Trade Enforcement Act of 2015. This act entered into force on February 24, 2016. According to the Act, “The term ‘trade facilitation’ refers to policies and activities of U.S. Customs and Border Protection with respect to facilitating the movement of merchandise into and out of the United States” (Trade Enforcement and Trade Facilitation Act of 2015). The Act set up a modernized system for goods entering the United States known as the Automated Commercial Environment (ACE). ACE is a single data window that allows the international trade community to communicate directly with Customs and Border Protection. According to U.S. Customs and Border Protection (2022),

The Automated Commercial Environment (ACE) is the system through which the trade community reports imports and exports, and the government determines admissibility. [Customs and Border Protection] applies expertise, technology, and automation to create streamlined and efficient processes to facilitate the global exchange of safe and legitimate goods.

To use ACE importers, shippers, customs brokers, etc. submit an electronic manifest to Customs and Border Protection which reduces wait times and processing at the border. Through ACE, the state security apparatus at the border also designates a list of authorized partners for streamlined border crossings. The ACE manifest is available for all modes of transport including air, ocean, truck, rail, and e-commerce.⁶² This allows certain companies to minimize wait times at the border and allows them to warehouse goods in Mexico, either to save on labor and storage costs or to mitigate tariffs through the use of Section 321 imports.⁶³

⁶² E-commerce manifests are Entry Type 86 discussed above.

⁶³ Personal interview with author, May 24, 2022.

Although Section 321 imports became popular following the trade war with China, these types of importations have been used by e-commerce companies to mitigate smaller tariffs before the trade war began. According to an interview with a United States customs broker Section 321 is not only used to mitigate the 25% value added tax on imports from China, but also “any duty or merchandise processing fees” on imports.⁶⁴ The Trade Enforcement and Trade Facilitation Act of 2015 did two things to facilitate Section 321 imports. First it upped the *de minimis* value from 200\$ to 800\$ making it more cost effective to use for higher value items being shipped to their end consumers in the United States. It also streamlined the process across the border which keeps the cost of transportation to a minimum as well as allows e-commerce firms to ship goods across the border while still competing in a just-in-time economy.

Not only did the Trade Facilitation and Trade Enforcement Act of 2015 modernize the digital mobility regime in the United States, but it also put into law the cooperation “between the United States and foreign governments providing for mutual recognition of supply chain security programs and customs revenue functions” (Trade Enforcement and Trade Facilitation Act of 2015). A few months after the United States transitioned to ACE, Mexico started a project to modernize their import and export data collection. In March of 2016 Mexico initiated their Customs Technological Integration Program. The program was an attempt to make Mexico’s logistics system more efficient by turning Mexico’s “customs into a ‘continuous eye’ that watches every passing truck, vehicle or person” (Montaño 2017). The combination of these customs programs on both sides of the border and The Trade Facilitation and Trade Enforcement Act of 2015 putting into law the cooperation between the customs programs to ensure supply chain security has created a more seamless logistics corridor connecting the two cities. This

⁶⁴ Ibid.

makes the capture of value-added logistics via international goods circulation across the border more competitive in both cities.

The Shift to E-Commerce

Another change in the supply chain comes from a shift in buying patterns and firm dominance in the market. As covered in detail in the previous chapter the economy has progressed in stages having to do with different modalities of production and distribution. Our current epoch is marked by a rapid transition to e-commerce. According to an interview done with a commercial real estate broker I will call Lenny, e-commerce “buying patterns have increased by 40% year over year. That means all that product that was being stored in brick and mortar has got to go into a warehouse.”⁶⁵ This means that as consumer buying patterns shift to on-line and distribution extends to people’s doors rather than to the storefront where people go to shop more and more industrial real estate needs to be used for goods circulation. This is because rather than storing goods in a big-box-retail store goods are now stored and circulated in warehouses as they make their way to the consumers door. When e-commerce product goes into the warehouse so does labor. As more and more products circulate through warehouses and those products need to get to the consumers door via the “last mile” an immense amount of work needs to be done along the supply chain.

The COVID 19 pandemic dramatically increased e-commerce buying patterns. However, these buying patterns are part of a much longer trend that predates the pandemic. These patterns are shown below in Table 3.9. According to the Annual Retail Trade Survey done by the United States Census e-commerce sales were 1.8% of retail trade in 2003, 3.6% in 2008, 5.9% in 2013,

⁶⁵ Personal interview with author, July 7, 2021.

and 9.6% in 2018. Put another way, total e-commerce sales have been constantly growing over the entire period, but growth from 2013-2018 far exceeds growth in the other time periods.

Table 3.9: E-Commerce Retail Sales in the United States Overtime in Millions of Dollars

Year	Total Retail Sales	E-Commerce Sales	E-Commerce Sales as % of Retail Sales
2003	3,262,731	57,155	1.8%
2004	3,473,048	72,597	2.1%
2005	3,689,283	91,387	2.5%
2006	3,871,573	113,334	2.9%
2007	3,995,182	136,470	3.4%
2008	3,935,315	141,592	3.6%
2009	3,612,471	145,507	4.0%
2010	3,818,048	169,921	4.5%
2011	4,102,952	200,386	4.9%
2012	4,302,229	232,196	5.4%
2013	4,459,848	261,558	5.9%
2014	4,641,927	297,989	6.4%
2015	4,728,119	338,237	7.2%
2016	4,848,213	383,466	7.9%
2017	5,040,214	443,221	8.8%
2018	5,253,037	506,115	9.6%

Data: United States Census Bureau – Annual Retail Trade Survey

This does not on its own explain the variation in growth in terms of transportation and warehousing jobs in the region over the different periods, but the sharp increase in sales from 2013-2018 is consistent with the rise of transportation and warehousing jobs in the region. Jobs in the transportation and warehousing sector increased by 16,925 from 2013-2018. The scale of

analysis of this data is also different than our regionally specific growth numbers in the shift share analyses shown above. According to the scale of the e-commerce sales data we would expect to see a high positive industrial shift indicating growth across the entire country in transportation and warehousing employment. However, as can be seen in Table 3.10, the growth in the transportation and warehousing sector was highly regionally specific in San Diego-Tijuana from 2013-2018.

Table 3.10: Change in E-Commerce Sales in the United States Overtime in Millions of Dollars & Regional Specific Growth in Employment in San Diego-Tijuana

Years	Total E-Commerce Sales	Total Difference in E-Commerce Sales	Total Change in Employment	Regional Shift
1998-2003	178,136	-	-	-
2003-2008	555,380	377,244	1,224	-1,317.0335
2008-2013	1,009,568	454,188	-1,678	-1,848.3563
2013-2018	1,969,028	959,460	16,925	10,302.3902

Data: United States Census Bureau – Annual Retail Trade Survey & United States Bureau of Labor Statistics.

What may have greater explanatory power in terms of e-commerce’s impact on the San Diego-Tijuana border region is the growth in e-commerce in Mexico. The data used for Mexico is not on domestic e-commerce sales like that of the United States data, but rather on gross value added via e-commerce. This means that this data would also capture e-commerce circulation from Mexico into the United States. According to Carlos Jaramillo, the President of the Tijuana Economic Development Council, “80 percent of product manufactured in Tijuana is exported to the United States.” But when it comes to fulfillment he said, “99 percent of what is related to fulfillment is done via finished goods that are only labeled and repackaged [then sent] to the

United States.”⁶⁶ This implies that most of the value added from e-commerce in Mexico would be warehoused in and circulated through the border region ultimately ending up back in the United States. Like the United States data, this data is at the national scale rather than the metropolitan scale, but as I have detailed above, much of Mexico’s production and distribution ends up for sale in the United States making its way through the border region. Mexican data on e-commerce begins in 2013 so we are unable to compare the 2013-2018 period with other periods across time using longitudinal data. However, what is shown in the Mexican data is a sharp growth in e-commerce from 2013-2018. As noted above, qualitative interviews have shed light on the fact that most major distribution centers in Tijuana service the United States market, rather than the local Tijuana market. These distribution centers are paired with a second warehouse on the San Diego side of the border. The explosion in Mexican e-commerce from 2013-2018, as documented in Table 3.11 below, is consistent with the growth in transportation and warehousing jobs throughout the region.

Table 3.11: Gross Value Added in E-Commerce in Mexico Overtime in Millions of Pesos

Year	E-Commerce: Gross Value Added	Total Difference E-Commerce Gross Value Added	% Change in E-Commerce Gross Value Added
2013	481,232	-	-
2014	595,556	41,652	23.8%
2015	662,367	66,811	11.2%
2016	818,696	156,329	23.6%
2017	1,013,258	194,564	23.8%
2018	1,159,521	146,263	14.4%

Data: Mexican Institute for Statistics and Geography

⁶⁶ Personal interview with author, June 10, 2022.

The increase in e-commerce in Mexico necessitates a need for warehousing space in Tijuana. According to a commercial real estate broker in the region “Tijuana now has a 0.2 % vacancy rate. It has been exploding in growth. A lot of new development is planned.”⁶⁷ This has also affected the San Diego side of the border as these e-commerce sales need to move across the border to get to their final consumer in the United States.

Not only does an increase in e-commerce sales necessitate a need for warehousing space, but it also needs a specific type of warehousing space. According to a commercial real estate broker that works out of the Otay Mesa border region in San Diego I will call Bob:

The area that I work became much more popular through e-commerce due to the fact that e-commerce has higher clear heights, larger truck courts, and bigger distribution centers and buildings. An 18-foot warehouse building in central San Diego does not do well for e-commerce. Central San Diego is comprised of more manufacturing mom and pop type buildings. So, the area I work in, Otay Mesa, known as the border region, is comprised of newer construction. Anything with newer construction is more desirable for e-commerce. You cannot find any land in Central San Diego. There is nothing available in Kearny Mesa, Mira Mar, Poway so Otay Mesa is the only industrial land area available in the county where you can build warehouse buildings for e-commerce. What I have seen in the area that I have worked is that a lot of large third-party logistics and distribution companies locate in Otay Mesa.⁶⁸

The Otay Mesa region of San Diego has become popular due to a dual pressure. On the one hand it is close to the border and can intake goods from Mexico within the buffer zone—the area in which Mexican truckers can drive in the United States. This is important because those goods

⁶⁷ Personal interview with author, May 19, 2022.

⁶⁸ Ibid.

can be delivered to a warehouse by Mexican truck drivers that cross the border. On the other hand, land for warehouses is available in Otay Mesa due to its geographic location in the periphery of San Diego. This makes possible the building of new warehouses that can meet the needs of e-commerce companies.

The same is true in East Tijuana near the Otay Mesa port of entry. The population is less dense in the Eastern part of the city and real estate prices are cheaper. According to Adriana Eugia Alaniz, an executive at Vesta Reality Group, a major industrial real estate developer and consultant in Tijuana, e-commerce has changed the built environment in Tijuana as well. She said:

Now e-commerce companies need to have the warehouses full of inventory in order for them to ship it really quickly for both Mexican consumers and US consumers mostly from the West Coast. In our case for industrial real-estate, we changed our construction behavior so now most of the buildings are higher. A roof used to be 9 meters high and now our construction is 11-12 meters high, up to 15 meters high... For us it is way better because it is not as specific for say medical devices or aerospace where they need plane rooms or 500-1,000 TV transformers or a bunch of office space. For example, Boeing needs a lot of people, engineers at their sites in order for them to manufacture their product. E-commerce is a totally different industry where you need less people and more production floor to store the product.⁶⁹

Here it is shown that the same pressures that are shaping industrial growth in the transportation and warehousing sector in the Otay Mesa region in San Diego are shaping growth south of the border. Again, there is a dual pressure for warehouse space near the Otay Mesa port of entry in Tijuana. Land is cheaper for industrial warehouse space outside the of the city center where

⁶⁹ Personal interview with author, September 2nd, 2022.

bigger buildings can be built. Also, because so much fulfillment is done across the border into the United States, locating near the port of entry at Otay Mesa cuts down on transportation costs.

Amazon moving to the border region also signals that e-commerce in general is coming to the region. When Amazon moves major fulfillment facilities in their supply chain network to a region, other fulfillment facilities from competitors normally follow. According to Ariana Eugia Alaniz of Vesta Reality Group:

Because of Amazon's brand, a lot of the competition follows. That competition is looking into the site as a place for them to also have an operation. We already have clients that had a very small operation, and they grew a little bit before Amazon. Then Amazon came and they said, 'you know what we are looking for something bigger, because if these guys are growing here then there is something that we don't know.' Or, 'we know and we want to be part of it too.' Another company, XB fulfillment which is not as popular as Amazon, but these guys are the carriers for Target and Walmart and other big companies. There are now massive warehousing spots for them... If I recall it was almost a million square feet in different spots in the city... Then little by little other companies... that are not as brand popular as Amazon... we see them come to the region after Amazon puts a warehouse in Tijuana.⁷⁰

Here an expert in the region details how Amazon moving to the region not only is important in and of itself, but also how it signals to other firms that there is a reason that they have moved to the border. This is common with leading firms. The market tends to react to leading firm strategy because other firms know these industry leaders have large research departments and invest in supply chain strategy. XB fulfillment, mentioned above, is a fulfillment company that helps facilitate cross-border fulfillment for retailers. As stated above they do fulfillment for Amazon's major competitors such as Target and Walmart who originally were brick-and-mortar retailers,

⁷⁰ Ibid.

but now are entering the e-commerce marketplace. XB fulfilment has major facilities both in the Otay Mesa region of San Diego and Tijuana. The facilities are right next to the border crossing on both sides. The firm is a sister firm of XB logistics which is headquartered in San Diego.

E-commerce in the border region is a driving factor of the logistics centered urban growth in the Northeast of Tijuana and the Southeast of San Diego. However, these new major facilities used for e-commerce trade across the border need to be linked by infrastructure as well as linked to already existing infrastructure networks in the cities. For that I now turn to a discussion of infrastructure in the region.

Investment in Infrastructure in San Diego-Tijuana

Infrastructural capacity is key for the movement of goods and the fixed private capital deployment in terms of building distribution facilities that goes along with it. Beyond the costs associated with land, labor, and taxes—discussed in detail in chapter 2—that go into making decisions about where to locate distribution facilities, the necessary infrastructure must be present for goods to circulate through a given geography. According to Kyle, an executive at an industrial real estate development firm:

We have always taken a transportation-oriented investment thesis in terms of capital deployment... We started building our portfolio around transportation nodes. Where there was some form of key infrastructure... So, I guess whether it was air or rail certainly... we have investments in and around those places and it was very intentional.... When it comes to other freight-based transportation, when we are just thinking how can trucks move in and out of certain locations it factors in and is a little more nuanced in that we are looking for assets that have access to highway infrastructure that can easily access roads to get to

where they are going without being bogged down in traffic. Without having to go an extra exit or two.

There it is a little more nuance in that we are thinking about how trucks can get access to our building.⁷¹

This means that transportation is at the center of decision making on where to locate warehouses and therefore which places capture commodity flows and gains in employment in the transportation and warehousing sector.

When it comes to the border region highway infrastructure is the most important goods movement infrastructure on the supply chain. Not only does the necessary highway and roadway infrastructure need to be in place for the movement of goods, but adequate infrastructure is also required to ensure a seamless border crossing. Also, because Southern California is a “logistical nightmare” (Chua 2021) due to the heavy traffic experienced when traversing the highways in the region it is necessary to constantly create new infrastructure to mediate bottlenecks created by the high population density and lack of public transportation for commuters.

The infrastructure projects in the border region were often a point of pride and contention in my time spent around industry insiders. Otay Mesa Chamber of Commerce representatives and Customs and Border Protection agents would often tout the improvements being made to highways and roads in the region as well as new lanes at the border and new modernized technologies that make crossing the border seamless. However, when I talked to business owners, manufacturers, and freight forwarders they often had a different story, a story of being unsatisfied with the infrastructure projects. One business owner told me at an Otay Mesa Chamber of Commerce event that despite the building boom there was a delay in road projects leading to over-congestion. Another business owner who said he was a “small business owner” told me that his pet peeve about the border region was the delayed infrastructure projects. I

⁷¹ Personal interview with author, June 29, 2021.

would later find out he ran a multinational manufacturing and distribution company supplying mining equipment to firms located in South America.⁷² Business owners in the region were also concerned that there had not yet been enough infrastructure upgrades to deal with the increased traffic that the new Amazon buildings in Otay Mesa and Tijuana would bring to the region.

Despite capitalist complaints about the lack of state efficiency when externalizing their transportation costs to taxpayers, there were many completed infrastructure projects in the region and infrastructure projects underway. The positionality of the San Diego-Tijuana region is historically embedded within macro-economic processes of production and distribution with extensive infrastructure networks. Tijuana was one of two original *maquiladora* cities and outside of Ciudad Juárez accounts for the most manufacturing of the Mexican border cities (Mexican Institute for Statistics and Geography 2021). San Diego, therefore developed functions that corresponded to the heavy amount of manufacturing taking place in Tijuana since the 1960s, including management and warehousing. The reason Tijuana and San Diego developed these functions is due to several factors all of which have to do with San Diego-Tijuana's positionality. San Diego-Tijuana is a coastal urban system which sits strategically close to major ocean ports. Although the San Diego-Tijuana region does not have a major ocean port of its own the border is within a few hours' drive from the largest intake ports in the United States at Los Angeles and Long Beach.⁷³ Due to the history of development in the region both cities have extensive already

⁷² Otay Mesa Chamber of Commerce, "Amazon New Generation Fulfillment Center Opening in Otay Mesa." Field work observation, June 3rd 2021.

⁷³ San Diego's commercial ocean port never developed to the same level as Los Angeles despite having a natural deep water harbor, which Los Angeles did not. The two cities were in competition with one-another in the early 20th century to become the intake hub of the West Coast. Although San Diego had a geographic advantage on its coastline several inland port projects failed due to natural disasters such as flooding and other supply chain contingencies such as militant groups in Baja during the Mexican Revolution robbing trains for supplies near the border crossing (Davis et al. 2003). Furthermore, Baja California does not have a deep-water ocean port despite an attempt to build a major port project at Punta Colonet over the past 15 years. This project ultimately was not funded due to a host of reasons.

existing urban infrastructure networks which allows commerce to operate within and between them.

The city system is also connected to other major cities in the United States *vis-à-vis* the United States expansive interstate highway system. San Diego sits at the intersection of the 5, 15, and 8 freeways. Interstate 5 connects the southern border of the United States with its northern border from Tijuana to Vancouver passing through San Diego, Los Angeles, the eastern edge of the Bay Area, Sacramento, Portland, and Seattle. Interstate 15 also runs from the southern to the northern border of the United States. It first connects San Diego to the major inland port in Southern California, the San Bernardino-Riverside Inland Empire (see De Lara 2018). After that Interstate 15 runs through Las Vegas, Salt Lake City, and eventually into Alberta's southern border. Interstate 8 runs east-west along the US-Mexico border to Tucson where it meets with interstate 10—itsself a major east-west highway that runs from the West Coast to the East Coast of the United States from Los Angeles to Jacksonville passing through major cities such as Phoenix, El-Paso, San Antonio, Houston, and Baton Rouge.

Unlike the rest of the border cities which have extensive highway connections to the rest of Mexico the two cities that sit on the California-Baja California border—Tijuana and Mexicali—are reliant on United States infrastructure and ports for Pacific Ocean trade. This is because Baja California is isolated from the rest of Mexico in so far as it does not have major highway infrastructure connections. A map of Mexico's major highway routes is shown below in Figure 3.5. Tijuana has been able to make up for the fact that it is not well connected with the rest of Mexico *vis-à-vis* being located adjacent to and integrated within some of the busiest commercial infrastructure in the United States.

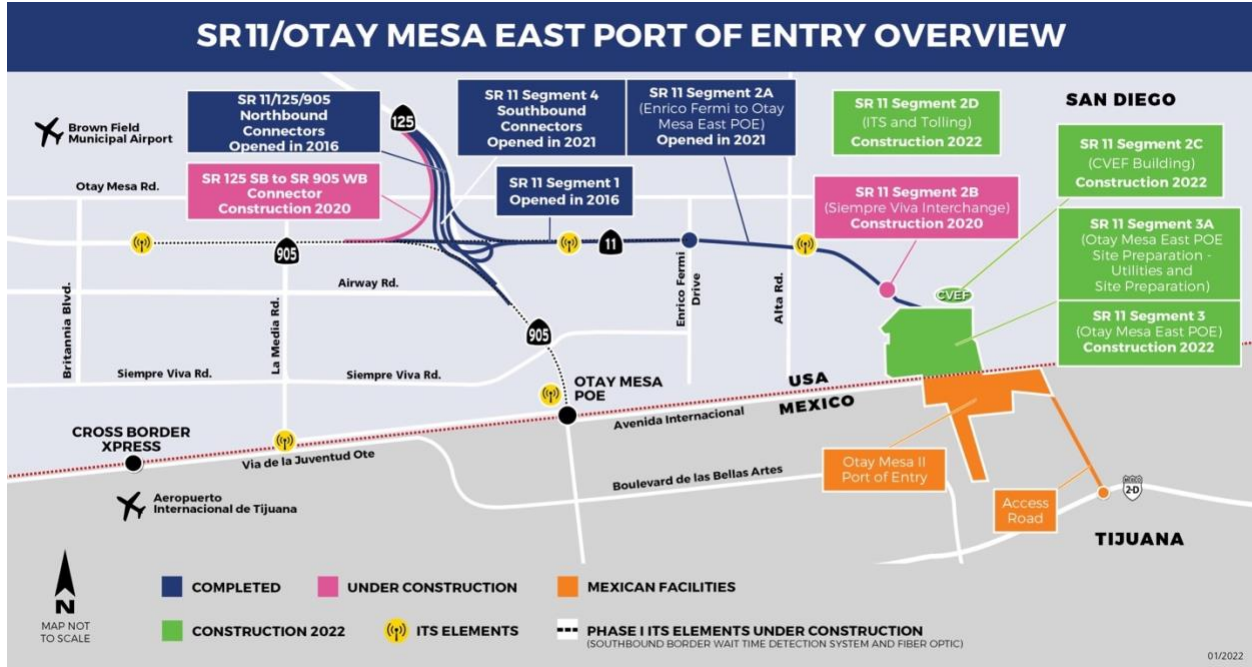
Figure 3.5: Map of Mexican Highway Routes



Taken from PWC 2014

Along with San Diego-Tijuana’s historically embedded positionality both the United States and Mexico federal governments are investing in projects in the region to facilitate cross-border commerce. Mexico is currently spending \$132 million in infrastructure investments to construct a second port of entry at Otay Mesa, acquire the necessary land for trucking lanes for the new port, and connect the Otay Mesa port of entry with the Tijuana airport. The United States is currently spending \$528 million in infrastructure investment to connect State Route-11 in California with the Otay Mesa port of entry (Mendoza 2020). A diagram of these infrastructure projects is shown below in Figure 3.6.

Figure 3.6: Infrastructure Projects at the Otay Mesa Port of Entry



Taken from Keep San Diego Moving

Furthermore, a multi-city regional planning commission in San Diego County known as the SANDAG secured funding for several major infrastructure projects in 2012—some of which have already been completed. SANDAG also has begun planning to modernize the San Diego-Tijuana infrastructure. These plans aim to turn the region into a major freight gateway for international trade. The discourse around the plan is firmly structured around growth through supply chain expansion. According to a SANDAG (2016) freight gateway study,

The time and cost savings generated by investments in the freight transportation network can enhance the overall performance of logistics systems, which in turn can increase productivity in manufacturing and distribution... This enhanced productivity reflects a more efficient use of labor, capital, and materials, all of which lead to improved production and increased economic growth. The concept of productivity enhancement is fundamental in economic theory as it is a key determinant of economic growth and improvement in the standard of living, as exhibited by the close relationship between how much economic

output there is per person (measured as Gross Domestic Product [GDP] per capita) and the growth of labor productivity.

In this formulation supply chain intensification and expansion leads to economic growth over the long run. Therefore, city planners, politicians, real estate developers and brokers, labor unions, and the rest of the traditional urban growth machine (see Logan and Molotch 2007) share a common interest in supply chain expansion along with land use intensification. While land use intensification of the traditional urban growth machine was lobbied at the city scale supply chain expansion must be done at the regional, national, and international scale. Because the supply chain inherently exists at the regional scale rather than the city scale a multi-city growth coalition (see Wachsmuth 2017a;2017b) is formed to meet the needs of supply chain expansion.

While land use intensification is no doubt still important to the urban growth machine, supply chain expansion can trump land use policy. Because San Diego-Tijuana sits at a strategic juncture for the supply chain, firms will locate in the region regardless of the ease of building new warehouse space. Bob, a commercial real estate broker based out of San Diego said that: Majestic Reality—a major industrial real estate developer—told him that the city of San Diego was “the worst city they have ever dealt with” and that it was “incredibly challenging to develop there.”⁷⁴ However, because firms need to be located at the border in order to facilitate their supply chains, they end up developing in the region regardless. Because of San Diego-Tijuana’s nested positionality, in theory, San Diego-Tijuana can make demands of firms that other places cannot such as union building contracts, higher environmental standards, and higher taxation.

⁷⁴ Personal interview with author, May 19, 2022.

What makes the San Diego-Tijuana region unique in its regional multi-city growth coalition is that it crosses a national border, meaning that it must lobby two different national governments. This can create difficulties for regional planners because the agenda of national governments most likely are not in line with one another. Furthermore, the Mexican and United States government systems have a temporal disjuncture which makes it difficult for mayors, governors, and presidents to work together on these issues. According to Gustavo De La Fuente of the Smart Border Coalition:

You have a system on the Mexican side of the border that elects a mayor every three years and governors every six years, although Baja California has had its idiosyncrasies over the past decade or two decades, but generally speaking every six years is a governor and every three years is a mayor and of course every six years is a change of the federal government in Mexico, and it usually coincides with the election of a governor although not always. So that presents its issues as well. So, there are different political time frames on one side of the border or the other which sometimes does not allow for these elected officials to actually get to know each other and seek to make the changes together and to advocate for these changes together at these ports of entry... and then of course the capitals in Mexico City and Washington do not necessarily have border efficiency as a priority. They have so many other issues and problems that they need to deal with. They do not give enough importance to the border.⁷⁵

To mediate this, the region has bi-national planning associations and lobbying groups such as the Committee on Binational Regional Opportunities (COBRO) and the Smart Border Coalition. COBRO is a binational planning committee run through SANDAG and their Tijuana partners. COBRO is “an *ad hoc* group with stakeholders on both sides of the border from government, academia, industry, NGOs, etc.” What COBRO does is “come together to discuss and provide

⁷⁵ Personal interview with author, June 13, 2022.

recommendations to... SANDAG decision making bodies on binational topics, issues, and opportunities.”⁷⁶ The Smart Border Coalition is a lobbying group made up of individuals, private companies, and non-profits on both sides of the border. What the Smart Border Coalition does is a “tremendous amount of advocacy for better travel and trade conditions across the ports of entry... It could be wait time reduction, it could be modernization of permanent infrastructure, or the establishment of new infrastructure.”⁷⁷ These types of planning and lobbying organizations that cross the national boundary help to facilitate investment in infrastructure across the border, whether that is procuring infrastructure investments from the federal, state, or local governments or finding investors in the private sector for infrastructure projects such as the new toll road being constructed from the Otay Mesa port of entry to public infrastructure in San Diego or a planned toll border crossing in which travelers will be able to cross the border quicker by paying a fee.⁷⁸

Supply Chain Efficiencies and Contingencies in San Diego-Tijuana: Just-In-Case Warehousing

Another factor in deciding where to route supply chains is the contingencies and efficiencies that correlate with goods movement. According to Rossiter (2012:26), “Disruption generates logistical nightmares for the smooth-world operations of ‘supply-chain capitalism.’ Contingency prompts control to reroute distribution channels and outsource labor to more business-friendly client-states and corporations.” Because contingency is the opposite of logistical fantasy—meaning the efficient, smooth, and planned circulation of goods—calculations are made by a variety of stakeholders in supply chain capitalism to route goods

⁷⁶ Personal interview with author May 20, 2022.

⁷⁷ Personal interview with author June 13, 2022.

⁷⁸ Smart Border Coalition, “Smart Border Coalition Stakeholders Meeting.” Field work observation, September 8, 2021.

around disruptions. According to Lenny, a commercial real estate broker in the Southern California the evaluation of where to deploy capital is quite complex having to do with a variety of factors. He told me in an interview:

Twenty years ago warehouse users just said give me a box that's got 200,000 square feet that I can store my product in and I'll get it to my customers. Well today it is no longer get me a box. It's hey my algorithm has 80 different variables and those can be drayage cost, those could be employee retention, those could be outbound customers, inbound customers, rail costs, air cost, cargo costs, all of that goes into an algorithm to help these operators to understand where the most efficiently cost-effective location is. And those are the formulas that are being used to determine where warehouses go right now... depending on the users outbound and inbound components. Where is the product coming from? Is it coming directly coming from the port? Is coming from another [distribution center]? Or more importantly focusing on the outbound – is it going out to another [distribution center]? Is it going out directly to a direct consumer here in Southern California? Is it going outbound to another market where they can put it on rail, or they can put it on air? Is it going overseas? When you start to look at that it is extremely important to understand what effects each of those transport modes have on where you locate your warehouse.⁷⁹

In San Diego, the inbound component is largely related to the efficiency of the border as compared to the efficiency of trans-Pacific shipments. Whereas in Tijuana the outbound component is related to the efficiency of the border as compared to trans-Pacific shipments. This is because the San Diego-Tijuana region largely competes with trans-Pacific trade that originates in Asia and makes it way to United States consumers through the ports of Los Angeles and Long Beach.

⁷⁹ Personal interview with author, July 7, 2021.

The efficiency of a particular city's supply chain and the contingencies that may be in place to re-route around a city renders places as interchangeable. This is because if the cost of transportation becomes higher or the speed of goods movement becomes slower through a place it may be preferable for the operators of the supply chain to supplement that route with more goods in storage closer to the consumer or choose another supply chain route altogether. For example, if there are potential delays at the ports of Los Angeles and Long Beach—as we saw during the supply chain crisis during the COVID 19 pandemic—then it may be preferred to nearshore production to the border region of Mexico because there are contingencies that have to do with the distribution of goods moving across the Pacific. Or it may be preferred to continue doing production across the Pacific, but to bring larger quantities of finished goods closer to the end consumer by storing those goods in warehouses in the border region.

Both phenomena are happening in regard to the growth of transportation and warehousing in the San Diego-Tijuana border region. Regarding changing the direction of the supply chain some companies have begun to move to Tijuana in a new nearshoring trend.

According to Gustavo De La Fuente, chair of the Smart Border Coalition:

Some of the companies will be coming to Mexico... Baja California usually gets two to three billion dollars in foreign direct investment yearly... I do anticipate many more Chinese companies establishing operations on the Mexican side of the border and I think Baja California is attracting them.”⁸⁰

When companies move to Tijuana to produce consumer goods not only do those companies need transportation and warehousing to move the goods toward their final consumers, but there also needs to be an immense amount of transportation and warehousing to produce the goods in the

⁸⁰ Interview with author, June 13, 2022.

first place. This means that not only are finished goods stored and circulated in warehouses on their way to the consumer, but critical inputs in the production process need to be stored and moved as well. According to Carlos Jaramillo, President of the Tijuana Economic Development Council, “What companies are doing is buying critical material beforehand and having more of that material in stock so that they can secure their production.”⁸¹ Because supply chain disruptions have made it more difficult to procure inputs from around the world more of those inputs are going into warehouses in Tijuana.

However, companies have also begun to store finished goods due to supply chain contingencies. This of course is not efficient in the just-in-time marketplace because the longer you need to store goods the more the company is paying in storage costs. Just-in-time logics of production and distribution were meant to eliminate this cost by getting products from far flung places to the consumer in an efficient manner as well as to minimize the amount of time goods sat in storage where value goes unrealized. However, due to contingencies in the supply chain, a new type of distribution system has emerged known as “*just-in-case*” distribution. According to Carlos Jaramillo, “We went from just-in-time to just-in-case. With so much strain and stress in supply chains, now companies are stocking more.”⁸² Tijuana is being used in the just-in-case model due to highly exploitable labor in warehouses, cheap real estate/pallet storage costs in those warehouses, the close geographic proximity to the United States consumer market, and legal engineering that allows goods to move in and out of Tijuana duty free. This is because if firms want to store goods “just-in-case” supply chains start to slow down in the just-in-time model they would prefer to not pay a premium for labor and storage.⁸³

⁸¹ Interview with author, June 10, 2022.

⁸² Ibid.

⁸³ The just-in-case warehouse is part of a larger phenomenon aimed at diversifying supply chains as to hedge against supply chain contingencies (see Page 2023).

While circulating goods through Tijuana may minimize some of the supply chain contingencies in trans-Pacific trade, cross-border trade is not without its own contingencies. The main contingency for cross-border trade is due to delays at the border. According to the President of the Tijuana Economic Development Council, Carlos Jaramillo, “We live and die from the border crossings.”⁸⁴ However, even when border delays get worse it is still quicker to send goods across the border than it is to send goods across the Pacific. Nonetheless, some of these contingencies and the ways in which firms and their state partners have worked, and are working, to overcome them are worth noting here. First, government agencies such as Customs and Border Protection have different objectives than businesses in the region. While the State does try to facilitate circulation across borders their priority is “border security.” This slows down the movement of goods across the border. One way this is mediated is through a myriad of programs that allow certain eligible companies to cross the border in special lanes without inspection, such as the SENTRI program discussed in chapter 2. There are also plans in the works to create a Freight Shuttle Xpress (FSX) at the border. The Freight Shuttle Express is advocated for at the Otay Mesa port of entry by the California Infrastructure Institute—a non-profit business organization. According to an internal email between SANDAG and the California Infrastructure Institute:

FSX is an autonomous, all-electric, zero-emission freight transportation system operating on an elevated guideway to: lower traffic congestion and increase mobility; reduce road wear and tear; improve emission levels; stimulate economic development; stabilize our supply chains and lower inflation... The FSX is

⁸⁴ Ibid.

designed to be employed at seaport bottlenecks; border Ports of Entry (“POEs”); and major intermodal cargo hubs (California Infrastructure Institute 2022).⁸⁵

In other words, the FSX is designed to eliminate contingency by taking human labor out of the cross-border supply chain. While this on its face is not necessarily a negative because labor time can be saved, because capitalism is still the current mode of production, human beings are reliant on selling their labor time to make a living. What the FSX would do at the border is create a system in which containers could cross the border in a fully automated system that did not require truck drivers to make the haul across the border. A picture of a prototype of the FSX is shown below in Figure 3.7.

⁸⁵ Obtained at: Smart Border Coalition, “Smart Border Coalition Stakeholders Meeting.” September 8, 2021.

Figure 3.7: Photo of Freight Shuttle Express



Taken from California Infrastructure Institute 2022.

Another potential way in which firms can limit contingency is a new system in which goods can be shipped across the border from the Tijuana airport on a monorail. The Tijuana airport sits directly at the United States-Mexico border and has a cross-border terminal—known as the Cross Border Express (CBX)—where United States passengers can enter the airport from San Diego, walk on a bridge into the airport, and get on a plane in Tijuana. An aerial image of the cross-border terminal is shown below in figure 3.8. The Tijuana airport also already has a bonded warehouse set up by Matrix Cargo Group—a customs firm in Tijuana—where customs

functions can be performed for cross-border trade. The Tijuana airport sits adjacent to the Otay Mesa port of entry which makes cargo shipments via truck into the United States from the airport quick with limited contingency. However, plans are in the works to take the contingency of trucking labor out of the process completely. According to Gustavo De La Fuente, chair of the Smart Border Coalition:

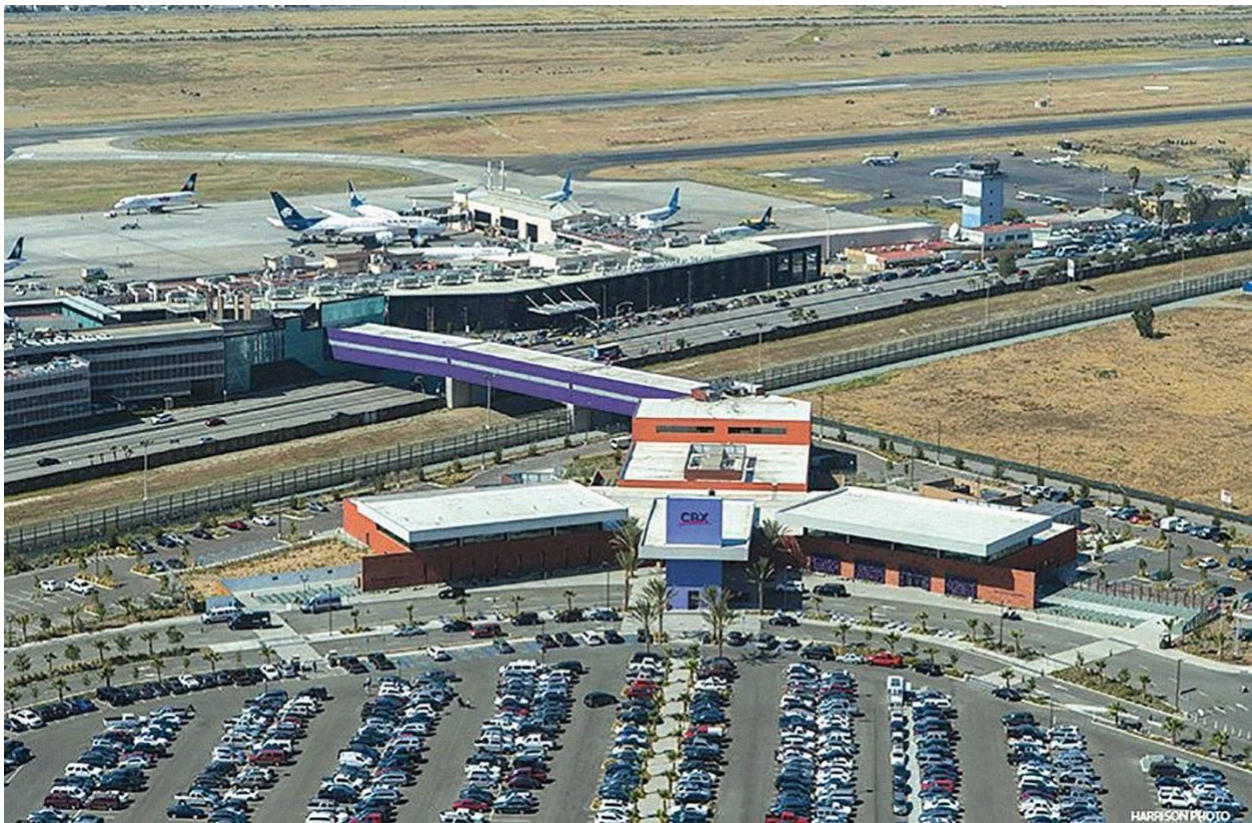
Ideally that Matrix cargo would be able to move goods to the United States directly across the border, imagine if they had a monorail for cargo, air cargo, putting it up in these large containers and moving the containers very easily straight across the border just like we do for CBX. That is being talked about, I don't think it's going to happen soon, but it's a possibility, so it is not that the facility is actually taking a lot of trucks out of the traffic, that's not happening yet, but it is gaining steam, it is gaining ground, they are closing deals. A lot of Asian companies, even South American and Mexican companies are moving cargo that way and arriving at the Tijuana airport, but you know that business will be tremendous in the next few decades. As Tijuana grows in stature and there is a possibility of getting more flights from Asia and from Central and South America you will be seeing a lot more movement there. We are just seeing the very beginning stages of that opportunity and that potential being realized. So, a lot more to come there but you know thankfully the facilities in place, the customs brokerage houses are there already inside that facility. I've seen it myself; they have a tremendous amount of room there. It's unbelievable just the size of that place. It is a wonderful opportunity for the whole region to move goods without necessarily having those goods arrive in Los Angeles or San Diego and really leveraging the size of the Tijuana airport.⁸⁶

The monorail from the Tijuana airport into San Diego, like the FSX, would be a fully automated process. This would allow the goods to seamlessly cross the border as goods would clear customs at the Tijuana airport, be loaded on a monorail, and then move into the United States all

⁸⁶ Interview with author, June 13, 2022.

with limited contingency. While most attention on automation in the logistics sectors has focused on robotics within warehouses (Delfanti 2021), technological advancements at ocean ports (Olney 2018), and driverless trucks (Viscelli 2018) it is shown here that plans are in the works to automate the border crossing itself.

Figure 3.8: Tijuana Airport Cross Border Express Terminal



Taken from Pearlman 2022.

There are also other contingencies that do not have to do with the crossing of the border. The infrastructure in place in San Diego once goods cross the border is less adequate than the Alameda Corridor which handles goods leaving the ports of Los Angeles and Long Beach on their way to the inland port of the Inland Empire—east of Los Angeles in Riverside and San

Bernardino County. According to Carlos Jaramillo, President of the Tijuana Economic Development Council:

The export corridor from Tijuana to San Diego has a bottleneck related to California Highway Patrol rather than Customs and Border Protection because when you cross the border there are only two scales from California Highway Patrol in order to weigh trucks.⁸⁷

In response to this, the Tijuana Economic Development Council is “working with California Highway patrol to see how to increase the capacity by putting more scales in San Diego so the outbound freight going to the United States can be more efficient.”⁸⁸

In summary, the San Diego-Tijuana region, in part, captures material flows due to contingencies in trans-Pacific trade. When there are stresses on the trans-Pacific supply chain, firms can relocate production to Tijuana or store finished goods in Tijuana using cheaper labor and storage costs. When firms store goods due to supply chain contingencies it switches the just-in-time supply chain to a just-in-case supply chain. This is a different logic of distribution which mitigates for contingency along the supply chain. However, the border poses its own threat to the smooth circulation of goods from Tijuana to San Diego. To mediate this a variety of stakeholders are working on innovations that would facilitate a more seamless border crossing for commerce. These strategies would eliminate labor from the logistics process, which under a different mode of production would be great because it would free up labor time to be used on leisure activities, but under our current capitalist mode of production would cost people that work in trucking their livelihoods.

⁸⁷ Interview with author, June 10, 2022.

⁸⁸ Ibid.

Comparing San Diego-Tijuana with Other United States-Mexico Cross-Border Cities

As shown above San Diego-Tijuana has had significant growth over the past decade in the transportation and warehousing sector. The growth did not only occur on one side of the border, as both cities saw increases in employment in the sector. The growth in the transportation and warehousing sector in San Diego-Tijuana is due to increases in commercial traffic across the border, changes in trade law, the shift to e-commerce in consumption patterns, investments in infrastructure, and supply chain contingencies and efficiencies. I now turn to understanding why San Diego and Tijuana both captured growth in the transportation and warehousing sector whereas the other transfrontier metropolises—El Centro-Mexicali, Tucson-Nogales, El Paso/Las Cruzas-Ciudad Juárez, Laredo-Nuevo Laredo, McAllen-Reynosa, and Brownsville-Matamoros—did not have the same patterns of growth.

To do this, I performed three shift share analyses on all seven regions along the United States Mexico border—one for the cities combined, one for the Mexican cities, and one for the United States cities. The shift share analyses measure the changes in employment in the transportation and warehousing sector from 2013-2018. The methodology is the same as above. For the shift share analysis on the changes in employment in the combined cross-border cities the United States and Mexican economies are combined as one economic unit and used as the base rate. For the shift share analysis on the Mexican border cities the Mexican economy is used as the base rate and for the shift share analysis on the United States border cities the United States economy is used as the base rate.

The purpose of this section is not to exhaustively study the other regions. This chapter is still primarily about why the San Diego-Tijuana region captured growth in the transportation and warehousing sector. Rather the purpose of this section is to use a comparison with other places to

give analytical leverage as to why San Diego-Tijuana captured growth on both sides of the border while other places did not.

The shift share analysis measuring the gain in employment in the transportation and warehousing sector from 2013-2018 across all seven transfrontier metropolises shows that San Diego-Tijuana gained far more employment than the other cities. San Diego-Tijuana gained 16,925 jobs, which means jobs in the transportation and warehousing sector grew by 60.42% over the period. The next closest city system in terms of total employment gained in the transportation and warehousing sector is El Paso/Las Cruces-Ciudad Juárez which gained 9,897 jobs, a growth rate of 39.78%. Following behind El Paso/Las Cruces-Ciudad Juárez was Laredo-Nuevo Laredo which gained 8,346 jobs in the transportation and warehousing sector, a growth rate of 31.67%. San Diego-Tijuana also has far more total employment than the rest of the city systems. This is expected across many industries because San Diego-Tijuana is the largest of the city systems measured by population. What is particularly interesting in the shift share analysis is that the regional shift far exceeds that of the other city systems. San Diego-Tijuana has a regional shift of 10,3012.39 jobs. These jobs have come to San Diego-Tijuana because of the geographic positionality of San Diego-Tijuana. The next closest in terms of regionally specific growth in the transportation and warehousing sector is El Centro-Mexicali which has a regional shift of 6,382.54 jobs. The growth rate in the transportation and warehousing sector in El Centro-Mexicali is also exceptionally high at 121.6% over the period. This implies that the positionality of Baja California-California is capturing value added through logistics rather than other places along the border. This is likely because the Southern California region has become a mega region for freight movement. Dear and Lucero (2005) argue that Baja California-California makes up a mega urban region that extends from Ensenada up past Los Angeles into Central California. San

Diego-Tijuana and El Centro-Mexicali to the east potentially are growing in the transportation and warehousing sector due to their positionality within the “Bajalta” (Dear and Lucero 2005) mega urban region. Tucson-Nogales had a small gain in employment with a small regional shift over the period. The growth rate in Tucson-Nogales was 33.2%. The other cross-border cities, McAllen-Reynosa and Brownsville-Matamoros had negative regional shifts. Furthermore, Brownsville-Matamoros had an overall loss in employment in the transportation and warehousing sector over the period. The growth rates in the transportation and warehousing sector in these two cities were 14.24% and -4.87% respectively. The results of the shift share measuring growth in the transportation and warehousing sector across all seven transfrontier metropolises from 2013-2018 is shown below in Table 3.12.

Table 3.12: Shift Share Analysis: United States-Mexico Transfrontier Metropolises Transportation and Warehousing Sectors (2013-2018)

City	National Shift	Industrial Shift	Regional Shift	Total Change in Employment	Total Employment in 2018	% Change in Employment
San Diego-Tijuana	3,571.011966	3,051.597833	10,302.3902	16,925	44,938	60.42%
El Centro-Mexicali	830.6398447	709.8208502	6,382.539305	7,923	14,439	121.6%
Tucson-Nogales	1,112.873825	951.0030728	834.1231021	2,898	11,628	33.2%
El Paso/Las Cruzas-Ciudad Juárez	3,171.499186	2710.195355	4,015.305459	9,897	34,776	39.78%
Laredo-Nuevo Laredo	3,359.78265	2,871.09244	2,117.12491	8,348	34,704	31.67%
McAllen-Reynosa	1,622.14426	1,386.19864	-1,196.3429	1,812	14,537	14.24%
Brownsville-Matamoros	1,122.05217	958.846397	-2,509.8986	-429	8,373	-4.87%

Data: United States Bureau of Labor Statistics & Mexican Institute for Statistics and Geography

The shift share analysis on the gain in employment in the transportation and warehousing sector from 2013-2018 on the Mexican border cities shows that growth in the transportation and warehousing sector varies across the border within Mexico. First, Tijuana captures more growth and more regionally specific growth in the transportation and warehousing sector as compared to the other cities. However, cities such as Mexicali, Ciudad Juárez, and Nuevo Laredo also capture a substantial growth in employment over the same period. The cities of Nogales, Reynosa, and Matamoros either gain a negligible amount of employment or lose employment in the transportation and warehousing sector over the period.

The regional shifts are varied among the cities that had sizeable gains in the transportation and warehousing sector. In Tijuana and Mexicali most of the gain is due to regionally specific factors whereas in Ciudad Juárez and Nuevo Laredo under half of the gain in employment is due to regionally specific factors. These latter two cities are capturing the flows of material goods based on regionally specific factors as well, just not at as high of a rate. Nuevo Laredo is located at the second largest port of entry in the United States—the only port of entry that handles more inbound cargo in the United States as compared to the land crossing between Laredo and Nuevo Laredo are the ports of Los Angeles and Long Beach. Nuevo Laredo is also located along NAFTA's superhighway which connects the ports of Southern Mexico—the fastest growing ocean ports in North America (Morley 2019)—into the interior of the United States and up to Canada. This means that Nuevo Laredo is part of a trans-America infrastructure network from Southern Mexican mega cities such as Guadalajara and Mexico City through Monterey and up into the infrastructure networks of the United States and Canada which connect cities as far flung as Chicago and Vancouver. A map of the NAFTA superhighway is shown below in Figure 3.9. Nuevo Laredo is also part of its own mega cross-border region sitting between Monterey and

San Antonio. Ciudad Juárez is the largest manufacturing center at the United States-Mexico border. As covered above, this means that it needs supplemental warehousing to store critical inputs in production and circulate outbound cargo. However, because Tijuana and Mexicali are located within the Bajalta mega region which has the largest inbound port in the North America they are capturing growth in the transportation and material moving sector at a higher rate and with more regional specificity. The results of the shift share analysis comparing the seven Mexican cities at the border is shown below in Table 3.13.

Table 3.13: Shift Share Analysis: Mexican Border Cities Transportation and Warehousing Sectors (2013-2018)

City	National Shift	Industrial Shift	Regional Shift	Total Change in Employment	Total Employment 2018	% Change in Employment
Tijuana	2,094.49508	271.345446	6,309.159474	8,675	16,808	106.66%
Mexicali	1,303.876625	168.919463	5,874.203912	7,347	12,410	145.11%
Nogales	481.5819255	62.3897681	380.0283064	924	2,794	49.41%
Ciudad Juárez	3,088.047523	400.0618766	3,849.8906	7,338	19,329	61.2%
Nuevo Laredo	3,508.85226	454.577856	2,019.56988	5,983	19,608	43.91%
Reynosa	1,458.65242	188.970934	-184.62335	1,463	7,127	25.83%
Matamoros	1,245.67475	161.379309	-2,090.0541	-683	4,154	-14.12%

Data: Mexican Institute for Statistics and Geography

Lastly, when analyzing changes in employment in the transportation and warehousing sector on the United States side of the border a distinct pattern emerges. First, San Diego has a far greater change in employment in the transportation and warehousing sector as compared to any other United States border city. San Diego had an 8,250 increase in employment in the sector whereas the next largest gain in employment in the sector is El Paso/Las Crusas which only

gained 2,559 jobs followed by Laredo and Tucson which only gained 2,365 jobs and 1,974 jobs in the sector respectively. El Centro, the counterpart to Mexicali, has a very small gain in employment in the sector, only gaining 576 jobs. McAllen and Brownsville have even smaller gains in employment in the transportation and warehousing sector.

Figure 3.9: Map of NAFTA Superhighway



Taken from peaktraffic.org

San Diego is also different in terms of the regional shifts in the shift share analysis. San Diego gains nearly half of its employment due to regionally specific factors while El Paso/Las Cruzas and Laredo have negative regional shifts—meaning the gains in employment in the transportation and warehousing sector had to do with how well the national economy was doing

as well as how well the transportation and warehousing sector was doing within the national economy. Tucson had a positive regional shift, but it was a small regional shift. Tucson owed more of its job growth in the transportation and warehousing sector to the national economy as well as the industry within the national economy. Both Brownsville and McAllen had negative regional shifts. This is documented below in Table 3.14.

Table 3.14: Shift Share Analysis: United States Border Cities Transportation and Warehousing Sectors (2013-2018)

City	National Shift	Industrial Shift	Regional Shift	Total Change in Employment	Total Employment 2018	% Change in Employment
San Diego	2,040.388268	2,462.485484	3,747.126247	8,250	28,130	41.2%
El Centro	149.1289816	179.9794471	246.8915713	576	2,029	39.64%
Tucson	704.0776419	849.7309066	420.1914515	1,974	8,834	28.78%
El Paso/Las Cruzas	1,322.762777	1,596.404071	-360.166847	2,559	15,447	19.86%
Laredo	1,306.64905	1,576.95688	-518.60592	2,365	15,096	18.58%
McAllen	724.707322	874.62827	-1,250.3356	349	7,410	4.94%
Brownsville	406.948666	491.134555	-644.08322	254	4,219	6.41%

Data: United States Bureau of Labor Statistics

In all but one of the seven city systems percent growth in the transportation and warehousing sector is lower for United States border cities when compared to their Mexican counterparts across the border.⁸⁹ Also, five out of seven border cities in Mexico have higher regional shifts signaling more regional specificity in growth along the Mexican side of the

⁸⁹ Matamoros's growth rate is less than Brownsville's.

border.⁹⁰ This implies faster growth in the transportation and warehousing sector in Mexico's border cities—a trend I expect to continue in the future.

The question remains: why did Baja California and California attract more jobs in transportation and warehousing than other cities along the border? Furthermore, why did Mexicali and Tijuana both attract transportation and warehousing jobs over the last decade, but only San Diego matched employment in transportation and warehousing whereas El Centro did not? Lastly, why did the transportation and warehousing sector have regionally specific growth in Nuevo Laredo and Ciudad Juárez, but not in their neighboring cities on the United States side of the border? Baja California and California most likely attract material flows through the border cities and therefore employment in the transportation and warehousing sector due to its positionality as part of the Bajalta mega region. Because Tijuana, Mexicali, and San Diego are located close to the ports of Los Angeles and Long Beach the entire regions logistics sector has grown substantially. El Centro most likely did not capture the same growth as seen in San Diego due to it being a small city with a small consumer market. Furthermore, San Diego can be used as the drop off point for Mexicali logistics functions. Goods movement infrastructure exists that links Mexicali to the ports of entry between Tijuana and San Diego. Also, goods movement infrastructure—namely Interstate 8 which runs from San Diego to Tucson—exists within the buffer zone where Mexican truckers can drive in the United States if truckers were to cross in Mexicali and then drive goods to San Diego. El Centro does not sit on strategic infrastructure networks in the United States like San Diego does and therefore firms that warehouse in Mexicali most likely move goods through San Diego on their way to their final consumers in the United States.

⁹⁰ Tucson has a greater regional shift than Nogales while Brownsville has a greater regional shift than Matamoros (in the case of Brownsville and Matamoros both have negative regional shifts).

Although there was regionally specific growth in Ciudad Juárez and Nuevo Laredo in the transportation and warehousing sector it was not matched by regionally specific growth on United States side of the border. One reason may be that there was already a sizeable transportation and warehousing sector on the United States side of the border that could absorb goods coming from Mexico. Both United States cities—El Paso/Las Cruzas and Laredo—had over 15,000 employees in the transportation and warehousing sector in 2018 following negligible growth in the sector from 2013-2018. However, San Diego had a sizeable transportation and warehousing sector preceding 2013 and there was regionally specific growth in the city from 2013-2018. What may account for the lack of a need for growth in the transportation and warehousing sector in El Paso/Las Cruzas and Laredo is the availability of rail infrastructure that crosses the border and intermodal facilities just south of the border in those regions. If goods moving across the border into El Paso/Las Cruzas and Laredo are put on rail they can make their way further into the United States before needing additional transportation and warehousing labor because there is no need for the goods to change truck drivers. The lack of significant growth in Tucson-Nogales also signals a problem with speculative investments in infrastructure. Arizona recently invested in the Sun Corridor from Tucson to Phoenix in an attempt to make the region more logistically competitive (Wachsmuth 2017a; Wachsmuth 2017b). However, there has yet to be growth in the sector that justifies the investment.

Negative Impacts of Supply Chain Urban Development in San Diego-Tijuana

Supply chain expansion in urban regions is often touted by business leaders and urban planners as good for the economy and as an antidote for the deindustrialization caused by the new international division of labor. However, there are costs associated with supply chain

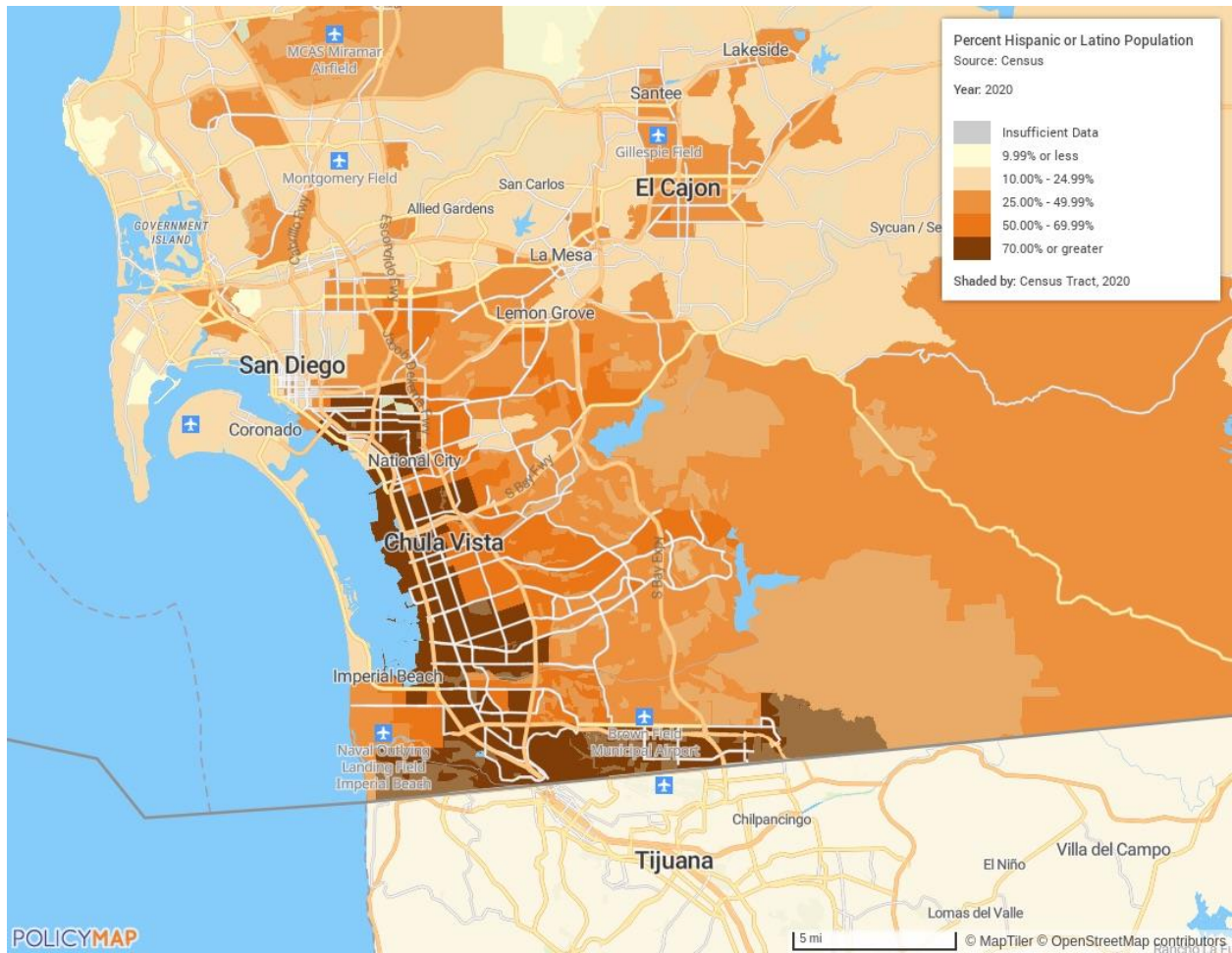
urbanization such as environmental degradation largely felt by marginalized communities, jobs are compensated at lower rates than competing industries, and jobs normally have harsh and dangerous working conditions.

When goods movement comes to San Diego-Tijuana so do diesel trucks and along with them air pollution and particulate matter that harms the health of local communities. When trucks idle at the border between San Diego and Tijuana they release particulate matter into the atmosphere. The steady increase in commercial crossings at the Otay Mesa port of entry paired with the steady flow of commuters and tourists that cross at San Ysidro has devastating environmental impacts on communities in the border region. Furthermore, the increased traffic that moves along the highways, normally close to low-income communities of color, increase the pollutants in the air for those communities.

When the United States increased their standards for diesel truck engines to limit air pollutants a process of ecologically unequal exchange unfolded in which old trucks from the United States were sold to Mexican truckers, effectively passing on the environmental harms south of the border along the same supply chain. This of course effects communities in Tijuana as the environmentally exploited side of the border takes on the air pollutants from the trucks that are leaving the roadways of California. The trucks that idle at the border are trucks driven by Mexican truckers. These trucks pollute the air for communities south of the border as well as the San Diego communities that sit adjacent to the border. As is shown in Figure 3.10 below, these communities have some of the highest concentration of Latinx populations in San Diego. These communities are affected by cross-border diesel traffic and commuter traffic far more than the largely white communities in Northern and Coastal San Diego. Furthermore, as goods move up

the map to United States infrastructure networks, they pass through the highly Latinx communities of Chula Vista and National City.

Figure 3.10: Percent Latinx Population in San Diego by Census Tract



Data from United States Census

Furthermore, as was detailed in chapter 2, the jobs coming to the region in the transportation and warehousing sector are not particularly good jobs. In San Diego they are remunerated at rates lower than the city wide average across industries as well as below the national average within the transportation and warehousing sector. This is largely because these jobs are done by Mexican workers that exist in the United States labor market in a state of

precarity. Many of these workers cross the border each day to work and do not want to be subject to lower wages for the same job in Mexico. Workers that work in the transportation and warehousing industry in Tijuana also make under the national average because transportation and warehousing jobs in the border region are technically classified as *maquiladora* jobs and are therefore subject to different wage rates. This is because the border economy exists as a subsidiary of United States production meant to keep products in the United States as cheap as possible for middle class United States consumers.

Lastly, transportation and material moving jobs tend to be some of the most dangerous jobs. During the pandemic these essential workers were regularly exposed to COVID 19 while moving goods towards the end consumer. These workers were risking their lives while consumers online shopped and remained at home away from the spread of the disease. Also, workers in the transportation and warehousing sector have higher rates of musculoskeletal disorders as compared to other industries due to the nature of the work. In each day workers in a warehouse bend over repeatedly, lift heavy objects, and walk miles on end. In the United States, measured by total days missed of work due to non-fatal workplace injuries and illnesses, the transportation and material moving sector is by far the highest with a total of 205,580 days of work missed within the sector. In comparison production jobs had a total of 111,150 days missed (United States Bureau of Labor Statistics 2020).

Conclusion

This chapter explored the shift toward logistics centered urban development in the San Diego-Tijuana cross-border urban region. San Diego-Tijuana was used as a site of study (Riofrancos 2021) capturing broader processes of globalization. The chapter first compared San

Diego-Tijuana with itself overtime to understand why there has been such rapid growth in the transportation and warehousing sector over the past decade. It was argued that San Diego-Tijuana captured growth in the transportation and material moving sector due to increases in commercial traffic across the border, changes in trade law—namely the signing and implementation of the Trade Enforcement and Facilitation Act of 2015, the shift to e-commerce in consumption patterns and firm dominance, investments in infrastructure, and supply chain contingencies and efficiencies. It was argued that supply chain contingencies have created a demand for “just-in-case” warehousing in Tijuana rather than just-in-time warehousing. Of particular importance was San Diego-Tijuana’s position on the West Coast as part of the larger Baja California-California or “Bajalta” (Dear and Lucero 2005) mega region.

Next, the chapter explored why some of the transfrontier metropolises have grown substantially over the last decade in the logistics sector while others have not. San Diego-Tijuana captured regionally specific growth in the transportation and warehousing sector on both sides of the border. El Paso/Las Cruzas-Ciudad Juárez and Nuevo Laredo-Laredo have had growth in the transportation and warehousing sector on both sides of the border, but this growth was only regionally specific on the Mexican side of the border. It was argued that El Paso/Las Cruzas and Laredo did not need substantial growth in the transportation and warehousing sector because the supply chain could function across the border through rail. Therefore, goods could make their way further into the United States before requiring additional labor.

El Centro-Mexicali and Tucson-Nogales had one sided growth along the border. In El Centro-Mexicali the growth was on the Mexican side of the border. This growth was highly regionally specific. It was argued that Mexicali is growing alongside Tijuana as part of the Bajalta mega region that is attracting material flows. El Centro did not grow due to its small

consumer market and the ability to swap San Diego in place of it along the supply chain. Tucson-Nogales, on the other hand, had more growth on the United States side of the border. This growth was not regionally specific and instead was due to growth in the United States national economy as well as the performance of the transportation and warehousing sector within the United States. In McAllen-Reynosa there was negligible growth in the transportation and warehousing sector with a negative regional shift and in Brownsville-Matamoros there was a loss of jobs in the sector.

Finally, I outlined some of the negative impacts of supply chain urbanism in San Diego-Tijuana. Supply chain expansion requires more diesel trucks on the roads and therefore more particulate matter and other air pollutants. These environmental harms are felt unequally across space as the trucks driven by Mexican truckers are largely used trucks from the United States that are not environmentally friendly. When these trucks idle at the border they release air pollutants that harm border communities which are largely made up of Latinx people both in Tijuana and the border region of San Diego. Supply chain urbanism also has not brought high paying and safe jobs to the region. These jobs pay less when compared to other industries in the region as well as within the sector when comparing to national averages. Workers in the transportation and warehousing sector also report more injuries and workplace illnesses as compared to workers in other sectors.

While this may paint a picture of doom and gloom, the border region is needed to extract higher levels of value and limit contingency along the supply chain. This opens the possibility for worker and community disruptions along the supply chain at a critical place for supply chain circulation that is hard to replace. If workers and community members were able to disrupt the supply chain they could make demands for better working conditions, higher pay, less

environmental degradation, and a host of other political measures. This subject is taken up in the next chapter.

Chapter 4 – Chokepoints: Labor’s Power Resources in San Diego-Tijuana’s Transportation and Warehousing Sector

In a long historical process starting in the beginning of the modern world-system, people in fits and starts, were separated from their means of production. This meant that peasants that once worked the land to survive were separated from the commons in which they collected needed goods for survival and the ability to make a livelihood based on their relationship to the soil. In fact, it was this very process in the 20th century that separated Mexican farmers from the land they were promised after the Mexican Revolution. The separation of Mexican farmers from their land in large part filled the *maquiladora* factories in the border region as well as pushed Mexican workers into the United States (González and Fernandez 2002).

When peasants lost the ability to provide for themselves, they were forced into the workshop and the factory, selling their time for a wage. Because these workers did not have access to the machinery, raw materials, and land needed to make a living independent of the wage they received for selling their labor time there was a power imbalance at the workplace. Those who had access to past accumulated labor⁹¹—*capital*—could demand that workers worked for the bare minimum needed for the reproduction of their labor power. Workers, only with access to their current living labor and without access to past accumulated labor, had to accept the wage they were given by those who had access to past accumulated labor (Marx 1847).

⁹¹ Accumulated labor is a discursive shift Marx uses in *Wage Labour and Capital* to describe capital. He uses past accumulated labor to signal that capital is nothing more than labor from the past that has been accumulated by a capitalist. This past accumulated labor is then employed to continue the dominance over those who do not have access to that past accumulated labor—the worker. The worker instead only has access to the direct living labor that they sell for a wage to those who have access to past accumulated labor.

However, because the capitalist needed the living labor of the worker to make a profit based on the production of goods for sale, workers could withhold their labor and demand higher wages. These actions of sabotage on the production floor had to be coordinated and well organized. This is because an industrial reserve army of workers existed to replace workers making demands for higher wages and better living conditions. If a single worker stopped working the capitalist only needed to replace them with a member of the industrial reserve army to continue production. However, if an entire workforce was well organized and went on strike, it became much harder for the capitalist to replace the worker and therefore the capitalist was more likely to eventually come to the table and negotiate with the workers over pay, safety, workday length, and a plethora of other issues in the workplace.

The relationship between capital and labor has largely remained the same throughout the history of capitalism. Each side has developed technologies in class warfare. For example, the capitalist class has leveraged pre-existing racial, gendered, and national prejudices in class warfare, threatening and at times following through on replacing workers with an othered group if the workers making demands withheld their labor. This is true both in terms of replacing workers at the place of production in which they work—such as replacing ‘native’ labor with immigrant labor—as well as moving production to another location to circumvent organized workers—such as capitalists moving production from the United States to Mexico (Bonacich et al. 2008; Peters 2017). Capitalists have also used the state to maintain production. To do this both legislation and police force are used to break strikes. Examples of this are actions like the Biden Administration breaking the rail workers strike or the Reagan administration breaking the air traffic controllers strike due to the potential impact of these workplace actions on the national economy. Although it is important that commodities move along rail lines and on air freight for

consumers to get their needed goods⁹² the Biden and Reagan administrations could have sided with the workers and demanded that the capitalists pay a fair share of the profits in wages—something rhetorically opposed by the Reagan administration and rhetorically supported by the Biden administration. However, as is mostly true across time, the state sides with the capitalist class in class warfare. Workers have also developed technologies in class warfare. Worker strategies include the formation of labor unions, electing pro-labor governments, developing inter-racial and international solidarities, leveraging strategic positionalities within global production and distribution networks, and a plethora of other tactics.

In the prior chapters a picture of the San Diego-Tijuana regions logistics sector has been painted. I discussed the ways in which the border is used along the supply chain as both a fixed physical line as well as a malleable socio-legal construction in order for capitalists to maximize their profits. Capitalists use special spatial constructions such as bonding cargo and foreign trade zones as well as segmentations in the working class to do this. I also outlined the growth in the transportation and warehousing sector in the region and why the growth rate has been sped up over the last decade. To do this I compared San Diego-Tijuana to itself overtime as well as compared the city system to other cross-border metropolitan areas at the United States-Mexico border. I concluded that the San Diego-Tijuana region at the current moment is attracting material flows because of its positionality along global supply chains. This has not always been true of the San Diego-Tijuana region and is not currently true about all cross-border city systems along the border.

In this chapter I bring agency to the picture by looking at the ways in which community members and workers may leverage their position at critical nodes along the cross-border supply

⁹² Travel on both modes of transport is important in the economy as well.

chain to make demands for higher pay, better working conditions, union recognition, and overall better standards of living. To do this analysis, I draw upon interviews with labor organizers, workers, academics, and journalists. Furthermore, I use primary source materials such as news articles to further substantiate my findings. I also use field work observations in the San Diego-Tijuana region as well as my case knowledge to demonstrate how, at the current conjuncture as the supply chain intensifies in the San Diego-Tijuana region, workers may be able to make more radical demands without fear of their jobs being relocated. However, I also pay attention to the structural constraints and obstacles workers have in organizing in the border region such as fear of organizing due to citizenship status, lack of ability to collectively organize due to classification status, or fear of organizing due to retaliation. For the analysis I focus on workers in the San Diego-Tijuana border region. While I do investigate Tijuana's labor market and labor movements, I primarily focus on the San Diego side of the border. This is for multiple reasons. First, labor organizing in the logistics sector in Tijuana is nascent. Much of Tijuana's labor movement is focused on the manufacturing sector due to its primacy in the city. Second, data on unionization in Mexico is unreliable due to the presence of company unions which makes it seem as though the workforce is well organized, but there is only a small presence of independent unions in Tijuana. These company unions are only unions in name. There are independent worker movements in Tijuana, which are discussed in the analysis. Also, access to workers and workplaces in San Diego proved to be much more fruitful than access to workers in Tijuana. Lastly, due to the nature of trade mostly coming from Mexico to the United States and the legal parameters of trucking in the border region there are concrete positions of power on the supply chain directly North of the border in Otay Mesa, San Diego.

The rest of the chapter is structured as follows. First, I draw upon some of the existing literature on labor movements, strikes, and worker power. Then, I discuss the positionality of San Diego-Tijuana and why at the current conjuncture work stoppages may result in an irreplaceable chokepoint in firms supply chain networks. For this I pay particular attention to the e-commerce and the third-party logistics (3PL) sectors. I also discuss some of the structural and agentic constraints on labor organizing in the region. To model both the opportunities and constraints on labor in the region I use the power resources approach, analyzing the structural, associational, institutional, and societal power of labor. I also expand upon a new type of worker power, that of *disruptive power*, and place this type of power in relation to the power resources approach. Lastly, I use two case studies in the region, XPO Logistics and Amazon, to map some of the possibilities and obstacles to organizing in the border region.

Worker Power and Strategy

There is a variety of literature on worker power and strategy from across the social sciences. In what follows I outline the power resources approach, its application to worker strategy, the use of chokepoints in supply chain networks, and further develop the concept of disruptive power. I then discuss global labor movements and their strategies in terms of leveraging strategic positions as well as discuss labor movements attachments to nationalism vs. developing transnational labor solidarities.

The Power Resources Approach, Disruptive Power, and Chokepoints

Workers have a long history of attempting to build power and cut into the profits made from the exploitation of their labor. To do this the primary strategy for labor is to withhold their

labor or strike to gain or get a better collective bargaining agreement. According to the power resources approach workers have four types of interconnected power—associational, structural, institutional, and societal (Schmalz, Ludwig, and Webster 2018). Associational power is the power workers get from their collective organization such as having union representation to coordinate actions. Structural power is the power workers have from their position within an economic system. Institutional power is the power workers have from their collective rights enshrined in law.⁹³ Lastly, societal power is the power workers can use to effect broader social change as well as the power workers have through their coalitions built with civil society organizations.⁹⁴ Societal power is tightly linked to the other types of power. Workers can effect social change when they have structural power because they can go on strike in key industries. Workers can also effect social change through the combination of associational and institutional power because they have protected rights to advocate for broader change (Dörre, Holst, and Nachtwey 2009; Schmalz, Ludwig, and Webster 2018; Silver 2003; Wright 2000).⁹⁵

Often institutional power is a result of past associational power because with strong associational power comes legislative change. According to Dörre et al. (2009), institutional power is a product of past associational and structural power that results in the ability for workers to enshrine their rights through institutions, normally through law. “Once constituted, institutional power can then have a positive effect on the organizational power of the trade

⁹³ Associational power and institutional power are tightly linked because the strong collective organizations of labor are generally the social actors that translate worker demands into law.

⁹⁴ Lehndorff et al. (2018) make a distinction between two types of societal power. First, they discuss coalitional power, which is based on the relationships developed by unions and civil society organizations or social movements. The other is communicative power, which they describe as the ability for unions to influence public discourse to make broader societal change.

⁹⁵ The four types of worker power—associational, structural, institutional, and societal—taken together are termed the power resources approach for labor (Schmalz et al. 2018). The relationship between the four power resources is uneven and complex. They build on Max Weber’s (1968) definition of power: “the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance.”

unions.” However, “It appears that the erosion and weakening of institutions, which in a way embody the coagulated interests of wage earners, can negatively impact the organised representation of... workers” (Dörre et al. 2009:37). Adding to this Lehndorff, Drisbbusch, and Schulten (2018:11) argue that “Institutional power tends to be eroded when the underlying balance of power on which it is based fundamentally changes and it is very sensitive to legislative intervention.” This means that as neoliberal policy became enshrined through law in the United States and Mexico it slashed the protections workers and peasants had enjoyed in the prior era. This gave multinational firms access to produce overseas causing workers to lose the associational and institutional power they once enjoyed.

Wright (2000) and Silver (2003) focus on structural and associational power. First, workers can have strong associational power. As mentioned above, this means that workers are collectively organized and gain power through their ability to make demands together as a collective unit. The other form of power workers have is structural or positional power.⁹⁶ This type of power results from the positionality of workers in the economy (Silver 2003; Wright 2000). Structural power has two forms. First, structural power results from tightness in the labor market. The tighter the labor market the more structural power the worker has. This is because employers have difficulty replacing workers due to the demand for labor in the economy outweighing the supply of workers. Second, structural power results from a worker’s strategic

⁹⁶ Positional power is an earlier term for structural power. Positional power as a concept was developed by Perrone (1984), before he tragically died in an accident. Positional power is a theory put forward to analyze which workers had more power to impact upstream and downstream industries along the commodity chain. Wallace, Griffin, and Rubin (1987) would empirically test the theory laid out by Perrone, cementing it as a foundational concept in the sociology of labor. Later, Wright (2000) would term this type of power structural power to signify the type of power workers had from their position within an economic system as contrasted to associational power which signified power from collective organization. Silver (2003) would later use these two typologies of worker power as the cornerstones for her world-systemic history of labor movements.

location along production and distribution networks. This means that a work stoppage would have disruptive potential within the larger economy.

When associational power is strong, but structural power is weak, workers can often make demands for higher pay, but their workplace and political demands may be limited. For example, if workers at a local restaurant are well organized and want to withhold their labor, the owner of the restaurant's surplus value will be affected and thus they may have to negotiate with the workers over issues such as wages, better scheduling, healthcare, and a host of other bargaining items. However, if workers at a farm that supplies a vast array of restaurants go on strike, not only is the owner of the farm affected, but so too are all the restaurant owners. This latter situation is when workers have a high level of structural power. Silver (2003:13) translates structural power to what she calls workplace bargaining power because "workers who are enmeshed in tightly integrated production processes, where a localized work stoppage in a key node can cause disruptions on a much wider scale than the stoppage itself" can result in more leverage in the bargaining process. However, without associational power workers find it difficult to create a work stoppage in the first place due to the lack of coordination amongst laborers.

When workers have both strong associational power and structural power, they can make the most radical workplace and political demands. For example, the International Longshore and Warehouse Workers Union (ILWU) throughout the 20th century had strong associational power because they were well organized and had strong structural power because they controlled the docks that connected the United States to international markets. These workers not only were able to make demands for some of the highest paying blue-collar jobs in the United States, but they were also able to make political demands such as when they refused to offload South

African cargo during apartheid (Cole 2015) or more recently when they refused to offload goods from Israeli shipping line, Zim Shipping, in response to ongoing assaults on Palestinian freedom (Alimahomed-Wilson and Potiker 2018). Another example of political change coming from the combination of strong associational power and structural power is detailed in Timothy Mitchell's (2011) *Carbon Democracy: Political Power in the Age of Oil*. Mitchell argues that the need to extract coal from specific regions in the world was so important to the functioning of the economy that it left capitalists vulnerable to strikes in the coal sector with broader political demands for democracy. He credits coal workers for helping bring about mass democracy as a result of these actions.⁹⁷ In this last example, the associational and structural power of coal workers resulted in a gain in institutional power through the eventual access to state democratic institutions for workers. The combination of associational and structural power also resulted in a form of societal power as workers used their position along the supply chain and their collective organization to effect broader social change.⁹⁸

When workers have strong power resources—some combination of strong associational, structural, institutional, and societal power—they can cut into capitalist profits and raise their standard of living through increases in wages and other bargaining items. However, capitalists have technologies to circumvent high paid workers. Capitalists can move production and distribution to other places—a spatial fix—or can use automation to replace workers—a technological fix (Silver 2003). Some workers who have in the past had strong power resources have had the spatial fix tactic used against them. For example, auto workers in the Great Lakes

⁹⁷ With the change to oil as the primary energy source of the world the situation has become much different. Now promises of infinite growth in the Global North rely on anti-democratic governance and the procurement of oil in the Middle East (Mitchell 2011).

⁹⁸ Coal was so important to the economy that the United Mine Workers of America have a history of bloody run ins with the state and capital when they struck for better working conditions, pay, standards of living, as well as broader political demands (Taylor 2020).

region had strong power resources. They had strong associational power due to years of organizing from the United Auto Workers (UAW) in the region (Stepan-Norris and Zeitlin 2002). They also had strong structural power because upstream industries such as the rubber industry and steel industry depended upon auto manufacturing due to those industries supplying critical inputs to the auto manufactures (Wallace et al. 1987). Furthermore, due to the rights enshrined in the New Deal era as well as the broader culture that went along with it—a political culture that was more accommodating to unionism—the UAW had forms of both institutional and societal power.

In response to the strong power of the UAW in the Great Lakes region and in the face of global competition from firms like Toyota the major United States auto manufacturers like General Motors, Chrysler, and Ford moved manufacturing out of union states in the Great Lakes region to places in the Sun Belt of the United States and the border states of Mexico (Silver 2003). This spatial fix in effect broke down the associational power that the UAW worked hard to collectively organize in the early to mid-20th century by moving to states in which there were less rights for workers and less friendly cultures to organizing. In other words, these states lacked institutional and societal power for workers.

While spatial fixes can be used in contexts like that of the UAW's power in relation to auto manufacturers some functions on commodity chains are relatively fixed in space. A good example of these types of semi-irreplacable nodes along supply chain networks are ports. While ports may exist in a plethora of spots around the world, they are incredibly expensive to dredge and build, they need to be connected by functioning infrastructure for goods and inputs to move down stream along a supply chain, and they need to be close to consumers or to other stages of the production and distribution process. In the best-case scenario for capital there are only a

handful of ports along a coast or border used as entrepôts for a consumer market or to connect inputs to other parts of the production and distribution network. Because of this, workers such as those on the shoreline in the ILWU cannot as easily be replaced using a spatial fix. However, as was recently seen at the ports of Los Angeles and Long Beach a technological fix can be used to fight back against the power of labor. Workers in the ILWU recently were subject to automation at the port which will cut employment and give power back to capital (Roosevelt 2019). It can be argued that this automation was possible due to a weakening of the institutional and societal power of the ILWU. City legislators had to approve automation at the port. Had institutional power been stronger this may not have been the result. Also, if broader society was more concerned with the working conditions of port workers rather than their own need for endless consumption at low prices, automation may have been met with stronger resistance. Therefore, if societal power was stronger there may have been more pushback on automating the port.

When workers have power resources at critical places in global and production networks that are not easily replaced—meaning they have strong structural power with some combination of associational, institutional, societal power—and therefore can organize with little fear of spatial fix or technological fix, they have what is known as a potential chokepoint (Alimahomed-Wilson and Ness 2018). These workers are normally transportation and warehousing workers—sometimes referred to as logistics workers—as it is these workers who move goods and inputs from one part of the production process to the next, and ultimately to the point of sale. In fact, it is these logistical processes that make spatial fixes possible as these are the workers that move goods from a new place of production to the next stage in the production process or to the final point of sale (Danyluk 2018). According to Alimahomed-Wilson and Ness (2018:2), “Logistics workers are uniquely positioned in the global capitalist system.” They continue, “Their places of

work are also in the world's choke points—critical nodes in the global capitalist supply chain—which, if organized by workers and labor, provide a key challenge to capitalism's reliance on the 'smooth circulation' of capital." This is because as the workers who move goods and inputs from one stage of production to the next, their stoppage of work always impacts both upstream and downstream production. Adding to this, Moody (2017:187) argues that since social democracy has been on the decline and capital has increasingly relied on deep logistical integration due to the spatial fixes used in class war that "*The resolution of this contradiction lies in aggressive labor and grassroots working-class organization and action outside the confines of the Democratic Party* [italics original]." This means that workers locating and acting upon critical nodes within a logistically integrated world-system is needed to make workplace and political demands. According to Waterman and Norman (2022:6), "For such a strategy to work... identifying the industrial links between workers in supply chains is a fundamental task."

This is because not all chokepoints are created equal. A determinant of the success of a chokepoint is largely related to the fungibility of a node in a supply chain network.⁹⁹ If workers go on strike at one node in a supply chain network, but there are redundancies in the network that are not organized, supply chains can easily be re-routed around a work stoppage.¹⁰⁰ According to Ciccantell et al. (*forthcoming*), "Attempts by labor to organize a chokepoint in a supply chain network will be most successful when directed at non-fungible, or irreplaceable, nodes."¹⁰¹ The

⁹⁹ Fungibility is a reference to the economic term for goods or assets that can be replaced by goods or assets of the same type. Danyluk (2019) uses fungibility within logistics networks to refer to the interchangeability of places along a supply chain.

¹⁰⁰ I owe the concept of "network redundancy" to a conversation I had with an Italian labor organizer at an event hosted by the International Labor and Logistics Research Network. Conversations and concepts developed with organizers have contributed a great deal to this project.

¹⁰¹ Waterman and Norman (2022) argue that the lack of coordination between sites that perform similar tasks is a major obstacle to supply chain organizing. That is because the lack of coordination allows capitalists to play competing sites against one another. They argue that supply chain organizing needs to address solidarity at a larger scale than the workplace.

landscape of where these irreplaceable chokepoints exist change with advancements in infrastructure, changes in firm dominance, and changes in consumption patterns. For example, before the building of the expansive highway system in the United States as part of the New Deal chokepoints primarily existed on rail lines, canals, and at ports of entry on the coast. In the era dominated by Walmart's everyday low prices, warehouses became key areas in which labor could organize and create a chokepoint. That is because Walmart used a hub and spoke model in which one warehouse supplied a series of stores that surrounded it. Rather than organizing each store, labor could attempt to organize the central warehouse because a work stoppage at a warehouse would have downstream effects on all regional stores (Bonacich and Alimahomed-Wilson 2006). In our current era, in which e-commerce has become a primary outlet for retail sales, warehouses have become more important to organize because goods that used to be stored in brick-and-mortar retail locations are now stored and circulated through warehouses. Companies like Amazon intentionally create redundancies in their supply chain networks to avoid potential chokepoints. This makes it more important for labor to locate strategic nodes within e-commerce companies—like Amazon—supply chain networks (Ciccantell et al. *forthcoming*).

Taking this a step further Olney and Wilson (2023) argue that strikes at the wrong place and time may play into capital's hands. This is because "A strike in the off-season could benefit the employer by closing down the operation in a period when less work is required." They continue, "A strike at one facility could be ineffective if a large employer is able to shift production, inventory, or delivery to another facility within their production system." Because of this, labor needs to not only locate the strategic nodes in a supply chain network but also the strategic tasks within a given facility so an employer still has to pay most of the workers while

production and distribution is disrupted (Olney and Wilson 2023). Using a chokepoint at a critical and strategic node in a production network introduces a new type of power to the power resources approach, that of *disruptive power* (see Kassem 2022;2023). Disruptive power signals the ability to disrupt the flow of capital by leveraging non-fungible places on the supply chain. table 4.1 below shows the updated version of the power resources approach.

Table 4.1: Power Resources Approach: Types of Worker Power

Type of Worker Power	
Associational Power	Power from collective organizations at the workplace.
Structural Power	Power from positionality within the economic system.
Institutional Power	Power from the institutionalization of gains made by past worker power normally through law.
Societal Power	Power from coalitions between worker organizations and civil society as well as the ability for worker organizations to influence broader politics.
Disruptive Power	Power from the ability to create a chokepoint at an irreplaceable node in global production and distribution networks because of a combination of the other types of power in the power resources approach.

See Wright (2000) and Silver (2003) for structural and associational power; see Dörre et al. (2009) and Lehndorff et al. (2018) for institutional power; see Lehndorff et al. (2018) for societal power; see Kassem (2022;2023) for disruptive power.

While transportation and warehousing labor has structural power due to their position along the supply chain, they often lack associational power. This has been particularly true in the warehousing and trucking sector in the late 20th and 21st century. While trucking has always been difficult to organize due to the geographically dispersed nature of the job and the fact that truckers spend much of their time on the road alone, in the mid-20th century before the decline in unionism in the United States, the International Brotherhood of Teamsters had successfully organized large segments of the trucking sector into a powerful union. These truckers had

relatively high standards of living due to the strength of the Teamsters.¹⁰² However, over the past half century the standard of living for truckers has decreased rapidly. Due to deregulation and collective action by employers trucking labor markets have been transformed. Employers recruit an inexperienced and often racialized and precarious workforce to lease trucks and work as independent contractors. These independent contractors are devoid of collective bargaining rights and therefore cannot exercise associational power (Viscelli 2016). This process has led economist, Michael H. Belzer (2000) to term big rig trucks “Sweatshops on wheels” due to the dangerous and exploitative nature of working in the trucking sector. Therefore, the decline of associational power is tightly linked to the decline in institutional power in the trucking sector.

Warehouse organizing has also deteriorated over the past half century. Once a strong hold of the ILWU as part of their “march inland” (Schwartz 2000) warehouse labor today is largely unorganized. The deterioration of warehouse unionism in the United States is due to several factors. First, a general decline in unionism felt across sectors in the latter part of the 20th century due to the emergence of neoliberal governance and capital flight (Moody 1988). Second, employer strategies to cut cost such as automation, the deskilling of warehouse work to make it easily replaceable, the use of temporary employment agencies, and an increasing reliance on highly precarious immigrant labor in the warehousing sector (Bonacich and Wilson 2008; De Lara 2018; Delfanti 2021). Lastly, short sighted union strategy aimed at procuring membership dues from unrelated industries rather than organizing downstream on the supply chain (Olney 2018). The result of these changes has left warehousing jobs at the bottom of the ladder of blue-collar work in the United States due to low pay, high rates of injury, and mediated precarious forms of employment without the right to collectively bargain. Like the trucking sector the

¹⁰² The workers represented by the Teamsters continue to have relatively high standards of living compared to non-unionized truckers.

decline in associational power is tied to a decline institutional power in the warehousing sector. This decline is related to a decrease in structural power due to slack in the labor market created by deskilling.

Although both sets of workers—truckers and warehouse workers—have strong structural power due to their position along production and distribution networks they lack at times disruptive power because of their weakened associational and institutional power. When they lose their disruptive power, they therefore do not have the same capabilities to effect broader social change through a chokepoint and they lose part of their societal power.

Chokepoints not only can be leveraged by workers and social movements, but they can also be leveraged by other political actors. For example, the Israeli settler states colonization of Palestine's goods movement infrastructure and the slowdowns created by checkpoints at the borders of Palestine and within the occupied territories serve as chokepoints (Alimahomed-Wilson and Potiker 2017;2018). These chokepoints have subsequently led to the de-development of Palestine's economy. The logistical delays paired with the de-development of the Palestinian economy leads Palestine to have a captive consumer market in which Palestinian consumers end up consuming products made in Israel. Adding to this Habbas and Berda (2021) argue that the chokepoints in Palestine not only benefit the Israeli economy, but also benefit certain firms and segments of the capitalist class within Palestine that are partners with the Israeli settler state. Therefore, Palestinian capitalists help facilitate chokepoints to have a competitive advantage as compared to other Palestinian firms. Adding to this, the closure of Syrian Kurdistan's (Rojava) border crossings during the Syrian Civil War by the state of Turkey and the Kurdish Regional Government in Iraq led to difficulties in Rojava defending itself from military aggression of rival groups during the war as well as led to difficulties in maintaining its communal economy

(Potiker 2019). Therefore, it can be gleaned that chokepoints are critical spaces that can be used to wield power by a plethora of political actors including workers, social movements, capitalists, states, and sub-state political entities. While this analysis underscores the ability for workers to use chokepoints, it should not be forgotten that the border can be used by the state and segments of the capitalist to choke competing industries and workers.

Labor Movement Strategy: Polanyi, Marx, and Rucker

Capital flight from the Global North to the Global South has largely been predicated by the Global South offering cheap labor for the production and distribution of consumer goods destined for the Global North (Silver 2003; Bonacich and Wilson 2008). According to Silver (2003:20), because there are differences in the terrains for organizing in the Global South and Global North due to the affect globalization was having on the place in which the workers lived—capital was either moving away or coming to the workers—two distinct types of labor movements emerged. In the Global North workers aimed to promote protectionist policies that limited the mobility of capital out of their labor market as well as limited the mobility of migrant labor into their labor market. These “Protectionist policies are laden with racial underpinnings” (Bonacich et al. 2008:348). By advocating for protection from globalization workers in the Global North show their unwillingness to form coalitions with workers in the Global South and immigrant labor. In the Global South newly formed working classes and working class movements are being made and strengthened because of the capital mobility to the places in which the workers live. Silver (2003:20), terms these two types of labor movements Polanyi-type labor unrest and Marx-type labor unrest respectively.

However, the typologies laid out by Silver do not always represent empirical reality. In the Global North new strategies are emerging to leverage international trade agreements by labor movements rather than resisting them altogether. This is particularly true in the transportation and warehousing sector. Rather than advocating for protectionist policies unions and workers can leverage strategic positions needed in trade to gain better conditions for workers and make political demands (Ciccantell *forthcoming*; Waterman and Norman 2022). Furthermore, trade agreements open transnational institutional spaces and relatedly a transnational political opportunity structure where labor movements from multiple nations can come together to form labor strategies aimed at better working conditions across borders (Kay 2005; 2011)—possibly signaling a new potential for institutional power at a scale larger than the nation-state. Also, as Chun (2008) argues, rather than migrant labor being excluded from the labor movement in the United States, migrant labor is now leading the labor movement in many sectors. Labor movements also now use corporate campaigns—such as public relations and information campaigns—and community strategies—such as product boycotts—in class war. These strategies often are most successful when they leverage pre-existing progressive rhetoric around immigration, anti-racism, and social justice (Chun 2008).

Bonacich et al. (2008), argue that the new international division of labor, discussed above, is a result of the racialization and gendering of global labor. Racialized and gendered understandings of workers in the Global South result in the othering of these workers and shapes what is thought of as acceptable in terms of working conditions and pay. Capital flight from the United States to Mexico has followed this same logic. Jobs that were once relatively high paying that belonged to white men in the in the United States are now shipped over the border and largely filled with women of color in Mexico. Cravey (1998), focusing on the border region of

Mexico, argues that movements of global capital to Mexico have reshaped the lives of workers in *maquiladoras*, particularly of women. The border region of Mexico has different management tactics, labor laws, and gendered divisions of labor than that of the United States. According to Bank Muñoz (2004;2008) production and distribution work in Tijuana’s tortilla industry—made up of almost entirely women—differs from that of work in the same industry on the other side of the border. Bank Muñoz (2004;2008) argues that workers in Southern California—made up of a greater percentage of men than women—face a racialized despotic labor regime due to their immigration status impacting their relationship with capital. Their counterparts in Tijuana are subject to a sexualized despotic labor regime because of the large number of women workers and their relationship to capital resulting in sexual harassment (see Burawoy 1979 for explanation of despotic labor regimes).¹⁰³ However, Bank Muñoz (2004) argues that both despotic regimes rely on the border. The racialized despotic regime in the United States relies on the border because it uses the distinction in citizenship status the border creates to racialize workers. The sexualized despotic regime relies on the increase in border security and the danger of border crossings to trap women within the Tijuana labor market while their husbands often make the crossing into the United States. Without the dangers of crossing the border many women might decide to cross into the United States to reunite their families. Adding to this, Wright (2006:12) argues that “the myth of the disposable third world woman” makes possible the hyper-exploitation of Mexican women in Mexico’s border region. This results in a different terrain for organizing when comparing workers across the border. However, according to Tiano (1994), these women are not

¹⁰³ According to an interview Bank Muñoz (2004:28) did with a plant manager in Tijuana: “in Tijuana we have a very unique situation which is that there are many single women, and many single mothers. These women need a stable job and since they do not have husbands they do whatever we want. They do whatever is necessary to keep their jobs.”

passive recipients of both gendered and racialized exploitation, but rather they employ creative responses of resistance to their subjugation.

Social change involves a variety of actors, not just the labor unions of the old left, but also social movements of the new left (Arrighi, Hopkins, and Wallerstein 1989; Laclau and Mouffe 1985). These actors are not independent of one another. Social movements that are originally independent of labor unions can be used as part of worker struggles. For example, as Milkman (2006) details, the migrant rights movement in Los Angeles was relatively stronger than the labor movement in Los Angeles. Due to the high concentration of immigrants of Mexican and Central American origin in Los Angeles paired with their desires for economic advancement a labor movement consisting of immigrant labor was built in conjunction with the immigrant rights movement. The ability for unions to form coalitions with other civil society organizations and ultimately bolster their own agenda is an example of the link between strong societal and associational power.

Social movement actors can also work in concert with the traditional labor movements or independently of traditional labor movements to leverage strategic positions on the supply chain. In the 2010 and 2014 block the boat protests, peace activists determined to stop the onslaught of Palestinian people in the occupied territories, band together with the ILWU. The activists and the ILWU used a clause in the ILWU's contract that stated the workers were not contractually obligated to cross a picket line. Activists formed picket lines at ports up and down the West Coast, which enabled the ILWU workers to not offload Israeli shipping lines without breaking their contract (Alimahomed-Wilson and Potiker 2018). Activists also can form chokepoints independent of labor unions such as activists resisting the construction of oil pipelines on indigenous land (Sowers, Ciccantell, and Smith 2017). These types of actions serve as

chokepoints as they stop the flow of a commodity—in this case oil—from getting from one stage of its production and distribution network to the next.¹⁰⁴ These examples can be seen as a combination of structural and societal power.

Chokepoints and supply chain organizing—in which direct action, industrial sabotage, and community partnerships are used to make both political and workplace demands—represent a third type of labor unrest that does not necessarily fit into the Marx-type or Polanyi-type outlined by Silver. Due to the direct nature of syndical industrial action combined with social movements used in chokepoints I here would like to introduce a third type of labor unrest—Rocker-type labor unrest. This is because Rudolph Rocker's theories of direct action, worker sabotage, and the social strike most closely resemble the chokepoint. Rocker's methods for obtaining progressive social change—the strike—is not just a tool for bettering working conditions, but for broader political changes.

Rocker pays attention to the ways in which the modern division of labor makes certain industry strikes effective in impacting the entire economy, paying particular attention to the role of transportation. As a classical theorist of labor and revolution Rocker is before his time in his analysis of transportation workers status as lynchpins in the entire economy. According to Rocker (2004 [*original* 1938]:85),

There are today in every industry a hundred means by which the worker can seriously disturb production; everywhere under the modern system of division of labour, where often the slightest disturbance in one branch of the work can bring to a standstill the whole process of production. Thus the railway workers in France and Italy by the use of the so-called *grève perlée* (string-of-pearls strike) threw the whole system of

¹⁰⁴ Sowers et al. (2017) point out that there is only one opportunity to create a chokepoint for oil pipelines because once they are in the ground it becomes nearly impossible to disrupt the flow of oil.

transportation into disorder. For this they needed to do nothing more than adhere to the strict letter of the existing transport laws, and thus make it impossible for any train to arrive at its destination on time.

Rocker also gives central importance to the role of civil society in worker struggles such as the boycott and the social strike.¹⁰⁵ In this way Rocker is emphasizing the relationship between worker organizations and civil society—or the relationship between associational, structural, and societal power. Rocker by discussing the disruptive ability of these groups to impact capital on a large scale and thus help to usher in progressive social change is hinting at the power resource approaches' relationship to disruptive power.¹⁰⁶

Although social movement and labor union activities can consist of broad coalitions, inter-group solidarities, and across borders it is not always the case that these groups are able to organize harmoniously. Nationalism, racism, sexism, and a variety of other hierarchies can get in the way of progressive social change. Nationalism can hinder labor becoming a class for itself because national attachments get in the way of labor transnationalism. According to Robinson (2014:51), the capitalist class has overcome national attachments in their formation of a transnational capitalist class (TNC). The TNC has become a class for itself rather than a class of itself. On the other hand, labor, by holding onto nationalism, remains a class of itself—not yet ready to become a transnational working class capable of taking on the TNC. The act of bordering between social groups is responsible for divisions in the working class. These divisions can exist due to political bordering—i.e., divisions between workers in the United States and Mexico—or can result from social bordering—i.e., the division between women and

¹⁰⁵ By “social strike” Rocker is discussing the demands of civil society to protect consumers.

¹⁰⁶ Due to Rocker’s political affiliation with anarchism he tends to be a bit weak on institutional power. I hypothesize that this is because anarchist politics emphasize direct action rather than impacting law or any type of politics that attempts to change existing state structures.

men in the workplace (Potiker 2019). Rocker also witnesses the way in which divisions along national lines impacts the working class. According to Rocker (2004 [*original 1938*]:71), “As long as the worker ties up his interests with those of the bourgeoisie of his country instead of with those of his class, he must logically also take in his stride all the results of that relationship.” Rocker continues, “He must stand ready to fight the wars of the possessing classes for the retention and extension of their markets, and to defend any injustice they may perpetuate on other peoples.” Here Rocker is critiquing any type of nationalism within the labor movement and calling for transnational organizing.¹⁰⁷ The typologies of labor movements are defined below in table 4.2.

Table 4.2: Types of Labor Movements

Type of Labor Movement	Definition	Tactics	Nationalist / Transnational	Working Class Position in World-Economy
Polanyi-Type Labor Movement	Backlash resistance by workers losing their jobs due to globalization as well as workers who had benefited from social compacts that are being abandoned.	Protectionism, anti-trade, and anti-immigration	Nationalist	Working class is being unmade due to globalizing forces.
Marx-Type Labor Movement	Emerging worker resistance that is made as an unintended consequence of globalizing production to new locations.	Workplace actions, strikes, political actions	Transnational	Working classes are being made due to globalizing forces.
Rocker-Type Labor Movement	Worker resistance that leverages workplace sabotage, strategic positionality within the global economy, and collaboration with civil society.	Industrial sabotage, social strikes, transnational solidarities	Transnational	Working classes exist in an interconnected economy across the North-South divide.

See Silver (2003) for definition of Marx-type and Polanyi-type labor movements. See Rocker (2004 [*original 1938*]) for Rocker-type labor movements.

¹⁰⁷ Marx also critiques nationalism within the labor movement. What separates Rocker from Marx is Rocker’s plurality of social forces that can be used to effect social change rather than Marx’s central focus on the industrial proletariat. Rocker also places central importance on industrial sabotage at strategic sites rather than political action through the state.

Not only do borders exist between social groups but borders also exist between types of unions due to political differences. In the United States, the American Federation of Labor (AFL) has had to compete for membership with many rivals that emerged politically to the left of it throughout history. Examples of these unions are the American Labor Union, the Industrial Workers of the World, the Trade Union Unity League, and the Congress of Industrial Organizations (CIO) (Stepan-Norris and Southworth 2010). The AFL competed for members across numerous industries with all these unions at one point in time in United States history. Famously in the early to mid-20th century the AFL was in competition with the CIO, before their merger in 1955. The AFL was conservative and explicitly anti-communist. The CIO on the other hand welcomed communist organizers that advocated for inter-racial solidarity which propelled them to prominence within the United States labor movement (Stepan Norris and Zeitlin 2002).¹⁰⁸

In Kimeldorf's (1988) historical case study of the rivalry between the CIO and AFL he analyzes the differences between the West Coast docks represented by the CIO's ILWU and the East Coast docks represented by the AFL's International Longshoremen's Association. He concludes that radicals within the ILWU were most successful when they were able to deliver on more than just economic advancement to the rank-and-file workers they represented. If all the radical labor unions had to offer were economic incentives the conservative labor unions and leaders only needed to get the same economic advancements at the bargaining table to compete. Instead, what the left needed was the ability to show the rank-and-file a picture of the better

¹⁰⁸ It was only after the merger of the AFL and CIO that communists were "left out" from the CIO. Also, the inter-racial solidarity advocated for by communists within the CIO was varied and uneven as the CIO also had exclusionary unions at times (Stepan-Norris and Zeitlin 2002)

future that they envisioned or bring in othered workers—such as women, workers of color, and immigrants—that were excluded from union organizing in the conservative branches of the labor movement (Kimeldorf 1988). Kimeldorf’s study shows the central importance to the inclusion of othered workers to the success of progressive labor unions as well as the importance of links between labor and broader social issues.

Although the AFL and CIO merged in the mid-20th century there are still borders between unions in the United States. Recently, a host of grassroots labor unions aimed at organizing Amazon have sprung up such as Amazon Labor Union and Amazonians United. These unions take a rank-and-file organizing approach and use a highly democratic union structure. Recently, the International Brotherhood of Teamsters, a well-established union that organizes transportation and warehousing workers in the United States, has declared their commitment to unionizing Amazon. According to Reese and Alimahomed-Wilson (2022:48-49), “Already, grassroots worker-led initiatives, including ‘militant minority’ direct action organizing have been very successful in engaging workers and building leadership locally among Amazon workers.” They continue, “For this reason, it remains important that the Teamsters (and other established unions) continue to support independent, worker-led organizing efforts across the logistics sector. Rather than implementing a top-down, one-size-fits-all organizing strategy.” It remains to be seen if the Teamsters will support and work with the rank-and-file worker led organizing efforts such as Amazonians United and Amazon Labor Union or if they will come in with a “one-size-fits-all strategy.” Also, within the Teamsters organization there are borders between different organizing strategies highlighted by the recent political battles between established union leaders and the Teamsters for a Democratic Union campaign (Teamsters for a Democratic Union 2023).

The same type of antagonisms between types of labor organizations historically and contemporarily in the United States exists within Mexico. For example, in the early 20th century the anarcho-syndicalist labor federation, *Casa del Obrero Mundial* led a general strike aimed at restructuring society. After it was crushed by the Mexican military the state led a project to start a new labor federation that would be aligned with bourgeois interests called the *Cofederación Regional Obrera Mexicana* (CROM). During the 1930s a new labor movement broke away from CROM known as the *Cofederación de Trabajadores de México* (CTM). Although, the CTM today mostly consists of company unions—sometimes pejoratively referred to as yellow unions—in the late 1930s the new upstart labor union forced the Mexican government to nationalize the railway and oil industry due to a series of industry wide strikes with worker demands to take over the industries themselves. Later, in the 1960s this tactic was used again, and the Mexican government nationalized the US-owned American and Foreign Power Company (Chacón 2021)—a rare occurrence when it comes companies that operate in the Global South that are owned by capitalists in geopolitically powerful states.

As previously stated, the CTM is no longer radical as it consists of many company unions. According to an interview done by Bank Muñoz (2004:27), when asked if workers in *maquiladoras* had a union the response was: “Yes and no. The CTM... represents the factory in Monterey... and supposedly this union also has jurisdiction over the Tijuana factory, but not really.” He continues, “In any case, we like it this way, because if anyone tries to start something, I can show him or her that a union represents him or her.” This shows how company unions are used by management to pacify labor resistance. However new grassroots labor unions such as *Ollin Cali* have emerged to serve worker interests in the border region. *Ollin Cali* faces union repression and violence from the state, organized crime, and the capitalist class. According

to the interview cited above, “If anyone ever started making trouble and tried to get a union, I would kill them. We are a business, not a charity” (Bank Muñoz 2004:27-28).

Workers in the Global South, including Mexico, also face systemic pressures brought about by global inequality due to the lasting legacies of colonialism. According to Bonacich et al. (2008:351):

Despite the end of formal colonialism, wealthy, primarily White, Western nations are still in a position to exploit countries in the Global South through the use of subordinate racialized labor forces. Under colonialism, domination was overt and clear. Now it is obscured by corporate rather than state domination. Global corporate domination hides the underlying continuity with the colonial world order. Meanwhile, neoliberal policies have freed companies to search the world for the most rightless and disempowered workers.

This is in part due to buyer-driven global commodity chain's (Gereffi 1994) in which largely United States' and other Global North brand name products and retailers are able to pressure production and distribution services firms in the Global South (Bonacich and Wilson 2006; Chan 2011; Lichtenstein 2009). The production and distribution services firms in the Global South make less in profits as compared to the firms in the Global North and therefore cut costs on labor, ultimately passing the bill to workers in the Global South (Chan, Pun, and Selden 2013). The reason the power asymmetry between firms exists is due to competition within the market. Firms like Amazon are relatively monopolistic and therefore can set prices. Wallerstein (2004) labels these types of industries core productive processes. In today's economy, firms that manufacture the goods needed for e-commerce companies are less monopolistic which drives the rate of profit down as they are not able to set prices in the market. This is because firm like

Amazon would go elsewhere to contract their orders.¹⁰⁹ Therefore the production and distribution partners of a firm like Amazon are what Wallerstein (2004) calls peripheral productive processes due to the competition in their field of industry.¹¹⁰

Because there is global competition in the marketplace for contracts from monopolistic retailers work stoppages and labor movements in these subcontracted production and distribution process in the Global South are often met with harsh crackdowns. This is due to firms and the state not wanting to lose contracts and foreign investment. (Chan et al. 2013). Also, workers in the Global South may be aligned with the longer-term development goals of their nation rather than short term gains in compensation for their employment. Nowak (2022) finds that the 2018 truckers' strike in Brazil was unsuccessful in creating significant political changes or pay raises for the truckers despite halting the flow of goods in the economy for a time. Nowak argues that ideological fissures in the trucking sector as well as development strategies of Brazilian agribusiness, which would have been negatively impacted by pay raises in the trucking sector, ultimately led to a lack of success for the strike. Another example of issues facing workers in the Global South is seen in the wildcat strikes in Palestine's trucking sector. These strikes were cut

¹⁰⁹ This type of power asymmetry does not only exist across the North-South divide. Recently a delivery service partner of Amazon in Southern California certified a union. Immediately after that Amazon dropped them as a distribution provider (Jamieson 2023).

¹¹⁰ For Wallerstein the core of the world-system and the periphery of the world-system are not necessarily nation-states or geographic zones. Instead, core and periphery are types of economic productive processes. Core productive processes are the most profitable industries. These industries are profitable because of their relative rate of monopolization. Peripheral productive processes are far less profitable. This is due to competition within the global market for the products and services they provide. Core and peripheral productive processes are not static. For example, manufacturing of textiles in the 19th century at the turn of the industrial revolution was a core productive process. This productive process was largely located in industrial centers in the England—the hegemon of the world-system at that time. Over time as the rate of monopolization goes down the manufacture of textiles became less profitable. This process made the manufacture of textiles a peripheral productive process. When types of industries go from core to peripheral, they often are then off shored to the Global South where cheaper labor can be accessed while industries emerge in the Global North as the new monopolistic core productive processes due to capitalists investing in new leading industries. Therefore, core and periphery only represent geographic zones in the economy in so far as they are where core and peripheral productive processes are clustered. The semi-periphery (see Wallerstein 2004) is a geographic zone in the economy that has an even mix of core and peripheral productive processes. There is no such thing as a semi-peripheral productive process.

short due to the need for the import of basic goods in Palestine. Palestinian truckers were forced to choose between the immediate needs of bringing in essential goods for Palestinian civil society and their demands for political freedoms and better pay (Alimahomed-Wilson and Potiker 2017;2018).

Structural Power: Leveraging the Strategic Position of San Diego-Tijuana

Structural power is strong when labor markets are tight and when workplace actions can have upstream and downstream impacts due to their position along production and distribution networks. Therefore, to organize a chokepoint workers and organizers need to locate places in which workers have structural power due to their location at strategic places along the supply chain. When they do, they can leverage power over policy both at the workplace and beyond. According to an interview with Peter Olney, a long-time organizer in the ILWU and labor leader within the global labor movement, chokepoints can be used for both workplace and political ends. He says:

The experience is kind of twofold. The ILWU has a long history of using chokepoints... it has used its power in a strategic position that it occupies, the docks, it has used that power for political purposes. Whether it is supporting the anti-apartheid fight, whether its protesting against the Japanese invasion of China which happened I believe in the 1930s when the newly born ILWU took action against Japanese cargo. More recently there has been the block the boat protests around Israel in support of the Palestinians so there is a long history of that type of activity on the waterfront by the ILWU... My particular interest is how do you leverage your power at those nodes or those chokepoints to organize and I have had direct personal experience with that where I have seen strikes and protests by workers organizing, non-union workers who are trying to organize impact the flow of cargo to the degree that those employers settle rapidly and settle dearly. I have led bargaining units where workers have gone from one section of the

working class to another overnight. I just heard a story when I was at the labor notes conference in Chicago. Workers at an intermodal yard in Tacoma, Washington who struck for recognition of their union and the contract settlement took their wages from \$17 an hour to \$32 an hour overnight. From one day to the next. I've seen that happen too. I negotiated a contract at the port of Los Angeles at an export processing zone. We struck at the facility, long shoremen refused to operate the conveyor belts that were loading ships with petroleum and coal and those workers also moved from one section of the working class to another overnight. So, there is a history of that... It's an awesome power if it is used strategically and smartly. I have seen it have amazing impact and I believe it could have amazing impact going forward on 3PL workers all over and certainly on Amazon workers.¹¹¹

Here Olney is laying out the potentials of using a chokepoint. He is also foreshadowing the strategy for organizing Amazon by using chokepoints. What remains to be understood is what is meant by using this '*awesome power*' '*strategically*' and '*smartly*.' This is particularly important for a firm like Amazon because Amazon is aware of the danger of chokepoints and has set up their supply chains to account for them. This makes it all the more important to locate strategic nodes in Amazon's supply chain network in order to organize effectively.

One of the issues with organizing a work stoppage to create a chokepoint is it may not impact capital due to the availability of fungible or redundant nodes in a supply chain network. This means that capital can simply shift distribution to another location in their supply chain network rendering the work stoppage ineffectual to the company's bottom line. According to an interview with foremost expert on chokepoint labor strategy, Jake Alimahomed-Wilson, author of the books *Choke Points: Logistics Workers Disrupting the Global Supply Chain* and *The Cost of Free Shipping: Amazon in the Global Economy*:

¹¹¹ Personal interview with author, June 23, 2022.

Capital is way ahead of labor. Especially when you are talking about e-commerce or Amazon or Walmart in preventing unions and preventing workers from getting any kind of power in this system. The built-in redundancy is probably one of the biggest challenges and this is the case with last mile workers and warehouse workers... I think concentrating on some of the major arteries... across the country that are most saturated are I think important sites to tackle.¹¹²

Here Alimahomed-Wilson is urging organized labor to choose strategic sites in which the ability to shift production and distribution around the facility will be most difficult.

One such site is the San Diego-Tijuana region. This is especially true in the e-commerce industry since the advent of the Section 301 tariffs on China and the need to use Section 321 imports from Mexico to circumvent them. What e-commerce firms are now doing is shipping goods from China into the ports of Los Angeles and Long Beach, bonding those goods, drop shipping them in Tijuana, and then waiting for orders to be placed to send finished goods to the consumer who is technically the importer. This whole process makes the 25% value added tariff on imports from China disappear (this process is discussed in detail in chapter 2). Because e-commerce firms can make massive cuts to costs by using the border region to partake in this tariff loophole workers in the e-commerce sector in the region are strategically positioned to set up and execute a chokepoint.

While redundancies do exist, they are few and far between. To maintain production partners in China and use Section 321 firms can do 1 of 3 things. First, firms can ship goods directly to their consumers from China. However, this is a process that either will take longer than what a lot of buyers expect due to same day and next day shipping norms or will cost too much due to the need to use airfreight to avoid delays in shipping. Second, firms can ship goods

¹¹² Personal interview with author, July 22, 2022.

into Mexico before shipping their goods to their final consumer. Lastly, firms can ship goods into Canada before shipping goods to their final consumers. However, Canadian labor and warehouse space costs much more than Mexican labor and warehouse space and therefore shipping into the border towns of Mexico rather than Canada is preferred.

Firms may also decide to shift their production partners out of China into other areas of the world to avoid tariffs. However, as explained in chapter 2, often firms still prefer to use Section 321 imports if possible because they remove smaller tariffs on imports as well as all other import processing fees. Also, as discussed above, it is becoming more popular to warehouse goods in Tijuana regardless as the just-in-case model of warehousing becomes more of a strategic necessity. The just-in-case model requires more goods to be in stock due to the stress on the supply chain witnessed during the COVID 19 pandemic. Using warehouses in the border region of Mexico allows firms to cut on storage costs while still having product close to the final consumer in the United States. Taken together this amounts to the border region of Mexico and the United States being a critical location for both capital and labor and thus a critical battleground of class war.

There are possible redundancies along the border of the United States and Mexico, but they are not numerous. There are only seven binary city systems with large populations to work in the transportation and warehousing sector. Only four of those city systems have a large number of transportation and warehousing workers in Mexico capable of moving goods into the United States—Tijuana, Mexicali, Ciudad Juárez, and Nuevo Laredo. Furthermore, some of the border crossings between cities do not have enough infrastructural capacity to handle large upticks in trucking across the border. Over $\frac{3}{4}$ of the north bound cargo from Mexico to the United States happens at four crossings between Nuevo Laredo-Laredo, San Diego-Tijuana, El

Paso-Ciudad Juárez, and Reynosa-McAllen (Cassidy 2019). This means that the primary redundancies for San Diego-Tijuana at the United States-Mexico border would be Nuevo Laredo-Laredo and El Paso- Ciudad Juárez because they both have large transportation and warehouse sector employment and enough infrastructural capacity to move goods in mass across the border.

However, San Diego-Tijuana has something that the other two cities do not—access within a day’s drive to a major Pacific Ocean port. The twin ports of Los Angeles and Long Beach can be used to intake goods destined for warehouses in the San Diego-Tijuana border region. Although, Nuevo Laredo is along the NAFTA superhighway that connects the two largest ports in Mexico—the port of Manzanillo and port of Lazaro Cárdenas—with the United States and Canada it is a long haul of about a one-day drive for goods to make it from Mexican Pacific Ocean Ports to that Laredo crossing. Furthermore, once goods enter Tijuana there is not existing major highway infrastructure to move goods along the border to another crossing (see chapter 3 for detailed analysis of Mexico’s highway infrastructure). Taken together this makes the potential impacts of a chokepoint in the San Diego-Tijuana region possibly monumental for labor.

Workers in San Diego also have extra structural power due to an institutional arrangement in trucking law. Because it is usually truckers from Mexico that make the trip across the border and those truckers cannot make long hauls into the United States—truckers from Mexico can only enter a buffer zone in the United States—goods need to change hands somewhere in the border region in the United States. These places in which goods change hands are as good as any to execute a chokepoint. These are often warehouses or trucking lots where truckers offload and pick-up containers. Often these warehouses and trucking lots have one exit

and entry point that could be blocked by a handful of militant workers and social movement actors that form a picket line.

However, there are factors that limit the capacity for structural power in the San Diego-Tijuana region. First, as discussed in detail above the existence of a dual labor market and industrial reserve army in Mexico creates slack in the labor market. This makes workers that go on strike in San Diego more easily replaceable. Second, the existence of large numbers of refugees from the Caribbean, South America, and Central America also creates slack in the labor market in Tijuana. Without efforts by labor to organize marginalized labor the structural power of labor in the region will be weakened. This comes down to labor strategy, if labor takes a Polanyi-type labor movement approach in which they advocate for protections against immigration in their labor market they will only further weaken the status on marginalized labor and therefore create a dual labor market in which they are replaceable with cheaper labor. If labor takes a Rucker-type or Marx-type labor movement approach they will organize with non-citizen labor to create a robust labor movement without cheap alternatives for the capitalist class. By forming strategy that locates the irreplaceable nodes within a company's division of labor and acting upon it to disrupt distribution networks workers would be using a Rucker-type approach to labor unrest.

Associational and Institutional Power: Worker Organizations and Labor Law in San Diego-Tijuana

Associational and institutional power are far from their peak in the mid-20th century. As discussed above, over the past half century union density has fallen and therefore so has associational power. This is in large part due to the neoliberal revolution that opened markets to

free trade and limited the political power of workers and unions through governance meant to stimulate capital growth at the expense of workers. The lack of institutional power—meaning the lack of worker rights enshrined in law—creates a lack of associational power, which then creates a feedback loop to less institutional power because workers do not have collective organizations to advocate for favorable policy. One way in which to stop this feedback loop is to organize workers to form associational power so they can advocate for greater institutional power. Another way is to advocate for greater institutional power to create the conditions for more associational power. In this way institutional power and associational power are tightly linked.¹¹³

The case of the San Diego-Tijuana labor market is unique because workers working on the San Diego side of the border often are commuter migrants which can cut into their institutional and associational power. Because workers exist in a legal grey area it makes it more difficult to organize these workers. According to an interview with Shaun Martinez, an organizer from the International Brotherhood of Teamsters:

My perspective on that [commuter migrants] is that it means that there are higher levels of fear, folks feel like they have more to lose, someone is living in Mexico who has a job on the US side, money wise they are doing better than most of the rest of the community. Losing their job and trying to find another job that is comparable is a scarier proposition. Folks that are guest worker programs or TPS [temporary protected status] or whatever situation that they are in feel like the companies can retaliate against them if they stand up.¹¹⁴

¹¹³ This feedback loop between associational power and institutional power is why these two types of power are addressed together in the same section.

¹¹⁴ Personal interview with author, August 23, 2022.

Here an organizer is documenting how workers that have legal status, but commute over the border, may be timid to organize due to fears of working on the other side of the border and employer retaliation.

For workers that do not have documentation the ability to organize can be even more dire. According to scholar and activist Justin Akers Chacón unionization is made difficult in the border region because of the threat of deportation. In an interview he said:

Deportation of workers either as workers in their communities or in the public space, but more specifically in the workplace serves to undermine unionization. It makes it more difficult because of vulnerability. So, you are an undocumented worker, and you have the opportunity or desire to form or join a union. It is the proximity especially to the border, but as a result of the border that tends to erode or undermine or stifle confidence to do so. If you do try to engage in any kind of organization towards collective bargaining or unionization there are plenty of examples historically and in more recent times where employers utilized the border and undocumented status as a means to call in and have undocumented workers arrested... The law is structured in such a way that allows employers to do this with very little consequences or no consequences, but heavy consequence for the workers. So, current immigration law which I think is a factor of labor law, or a component of it, enables the employers to regulate, using immigration policy to regulate their own workforce. So, calling in or turning in workers who are trying to organize is a very effective way to defeat organizing drives. Especially if you are actually deporting or firing workers that are trying to lead or join the process.¹¹⁵

Here Chacón brings up another concern with labor organizing on the San Diego side of the border. Because the labor market has a high number of undocumented immigrants from Mexico and Central America the workers exist in a high state of precarity and face backlash which

¹¹⁵ Personal Interview with author, July 13, 2022.

impacts them more severely as compared to workers in a more privileged situation. Also, Chacón discusses immigration law as a part of labor law. Because immigrants do not have their rights enshrined in law it makes it more difficult to organize these workers. As the two quotes above document, whether migrants have legal status or not they exist in a heightened state of precarity which hinders collective organization, therefore decreasing associational power. This is a result of the lack of institutional power due to the lack of enshrined rights for immigrant workers.

This has not been the case throughout all United States history. After IRCA in 1986 amnesty created a pathway to citizenship for immigrant workers. This gave immigrants a form of institutional power, which led to associational power in the industries in which they worked. This process did not happen on its own as progressive forces within the labor movement—inclusionists—laid the foundations for institutional power to translate into associational power. According to an interview with Justin Akers Chacón:

The inclusionists wanted to bring a generation of migrant workers into the union so they, as part of organizing, built organizing centers for immigrants, where workers were already organizing, and through that process built relationships with [migrant] workers. But they also through this process built out important mechanisms for helping workers apply for amnesty. So, they provided the legal resources and educational resources necessary to navigate that process very directly. So that basically was a pathway for hundreds of thousands of people from legalization directly into the union... And amnesty, because so many migrant workers joined unions, it actually bolstered the union movement and created these windows where workers at that time began to build coalitions between US born and migrant workers, wage rates began to rise, because migrant workers can now join unions together without fear of persecution.¹¹⁶

¹¹⁶ Ibid.

This example provides evidence of the relationship between institutional power and associational power when properly organized. Because immigrant workers were able to join unions without fear of persecution unionization began to rise in those sectors. Also, because progressive arms of the labor movement were willing to organize immigrant workers, they were able to build upon their own national labor movement by “de-splitting” the labor market. The transnationalist approach to labor organizing aligns with Marx-type and Rucker-type labor movements.

However, not all branches of the labor movement were on the same page. Some branches of the labor movement continued to take a nativist Polanyi-type approach to labor organizing opposing migrant labor in their labor market. The debate in organized labor was structured around organizing immigrant workers or excluding them.

Organized labor was already beginning its long decline including around really horrible anti-immigrant politics so there were fractures within organized labor, specifically the AFL-CIO, over the question of how to rebuild the ranks. Was it through closing immigration and continuing to appeal to the native-born specific population or orienting towards a larger and growing population of workers who were already self-organizing and actually demonstrating a practice of willingness to organize into a union?¹¹⁷

This demonstrates the divide between different labor movement strategies. Workers were either to build an inclusive labor movement or exclude migrant labor, ultimately putting downward pressure on wages due to a split labor market. Because of a lack of unity in the labor movement negotiations over immigration law enabled a pathway to amnesty for workers already in the United States but did not do the same for future generations.

¹¹⁷ Ibid.

With the negotiations came this other side of it, the capitulation that future generations of workers would not be able to do this. That criminalization would make it so future migrants would not be able to participate in amnesty and it became the language that said we would shift resources to stop migration at the border so that laid the groundwork for the rise of what I call the migra-state, the growing apparatus of border and interior enforcement. We have not seen really any immigration reform policy except on that side of it, to pile on restrictions, punishments, criminalization.¹¹⁸

This has resulted in a harsher landscape for organizing immigrant labor in the United States in the years following amnesty for these workers. This is because the institutional power of immigrant workers has decreased even after the initial boost in associational power due to amnesty—itsself a policy that briefly increased institutional power.

However, there are some pathways to building the organizational capacity and therefore associational power in industries heavily represented by immigrant workers. One such pathway is through a culture of organizing that may potentially be stronger in immigrant communities than in native born United States communities. According to an interview with author, activist, and documenter of immigrant rights, David Bacon:

I think people come to the United States from Mexico with a conception about their rights as workers that often makes them interested in organizing on the US side of the border because people have lived in a political system in which those rights are spelled out in a much stronger way in Mexican labor law and the Mexican constitution and people are familiar with that. I mean it cuts both ways because I think people can also be cynical at times of the failure in Mexico to make those legal rights real for people on the ground. Nevertheless people do come with those conceptions and that is something that has in general made Mexican workers in the US often more willing to join unions and more willing to go on strike and

¹¹⁸ Ibid.

sometimes more militant in the tactics that they use like setting up encampments or *plantones* near the places they are on strike or other tactics like that—marches—and I think that is a result of the Mexican educational system and Mexican culture which is an inheritance from the Mexican revolution itself.¹¹⁹

Here Bacon is discussing the organizing culture that comes with being educated in Mexico and having stronger rights enshrined in law in Mexico, thus coming from a place that had strong institutional power. He is also making a cynical comment about the lack of enforcement of that institutional power. Nonetheless he is saying that immigrant workers at times can have a stronger desire to organize than native born United States workers. Adding to this Shaun Martinez, an organizer from the International Brotherhood of Teamsters discussed organizing immigrant workers. Like Bacon he discussed organizing these workers as a mix of potentials and difficulties. He said:

Folks that are more vulnerable and you know immigrant communities specifically whose primarily language is not English rely on each other a lot more in community, so there are deeper tighter community ties. If you are able to tap into the community structures that already exist than there is a path to organizing once you get the right people on board. There is an organizing map that exists that is really strong, as opposed to all US born workers. In the US, we live in suburbs and are really individualistic and we have single family homes and its increasingly expensive to live in cities, so people are just spread all over and their communities are spread out, so you do not have the same connectivity a lot of times. Or the connection is the work, people hang out with who they work with and if they change jobs that changes and so if you upset that apple cart by taking on your boss, maybe your bosses are part of your friend group, or maybe people in your friend group are against it, so it is just a different organizing terrain with different challenges. But you know folks that are here on TPS [temporary protected status] and escaped Civil War in their country, if they decide they are going to do this they have the life experience to overcome and defeat

¹¹⁹ Personal interview with author, August 17, 2022.

the fears of organizing that pale in comparison to things that they have overcome in their past. I don't know. It's a mixed bag. It's all over the place. Those are some of the things that come to mind.¹²⁰

Here the organizer is discussing some of the strengths and weaknesses when it comes to organizing immigrant workers. While institutional power is limited there are pathways to gaining associational power, which in theory then may lead to a growth in institutional power through worker organizations shaping border policies.

Organizers also need to know how to support immigrant workers if they do decide to organize. Because there are higher levels of fear due to a lack of institutional power for immigrant workers, labor organizations need to understand the terrain in which they are organizing. According to Sheheryar Kaoosji, the executive director of the warehouse worker resource center in Southern California:

It is about having a cultural kind of structure, awareness, and strategy, and drawing on good organizers, who do not have to be immigrants, but at least they have to be able to understand and work with immigrants. I would say the key then is having a really robust strategy on the legal side. So, you can credibly say [to immigrants], 'no I cannot promise you that we are not going to face retaliation but here is what we are going to do.'¹²¹

Here Sheheryar is discussing the way in which understanding immigrant rights, or put another way, the institutional power of immigrants is critical to organizing these workers within labor organizations. Organizers must be able to go to the community with knowledge of what rights they do have and articulate those rights to lessen fear of organizing.

¹²⁰ Personal interview with author, August 23, 2022.

¹²¹ Personal interview with author, August 4, 2022.

When it comes to organizing on the other side of the border in Tijuana there are other factors at play that repress organizing potential. According to an interview with Justin Akers Chacón:

Tijuana in many ways is a crossing point for many migrants, not an end point. So, there is a kind of fluidity in labor markets in Tijuana for that reason. However, because of increased border militarization and enforcement and really what I would call regulation... it means that those incapable, those without the resources, those without the means and network to cross end up getting contained in Tijuana. So, class formation in terms of working class formation there I think is challenged by the transitory nature of much of the migratory working class moving through which I think would mean that there are not a lot of settled workers that have long term employment. Then you have a type of enforcement, or lack of enforcement of labor law in Mexico especially in the border region where capital exports out of *maquiladoras* is heavily dependent on keeping wages suppressed and as low as possible and keeping unions out of the workplace. I would say that is definitely another major factor that prevents the process of workers attempting to organize and collectively bargain. And then you have the existence of fake company unions or yellow unions or protection rackets and all these other things that pile on through that process. So, yeah, with the need for capital exports the intention is to keep unions out, real unions out, and wages and working conditions as meager as possible. Especially by foreign capital from the US, but it also coincides with Mexican capital. We also see higher rates of exploitation that are essential to Mexican capital as well.¹²²

Here we see structural constraints to building associational power in Tijuana. In Mexico workers technically have unions, but they are ineffective due to their relationships to the companies.

Chacón also brings up the lack of institutional power in Mexico. However, he discusses that this is a result of a lack of enforcement of the law. This means that within Mexican law there are supposed to be minimum protections for workers, but that law is not enforced. This is especially

¹²² Personal Interview with author, July 13, 2022.

true in the border region because the region is reliant on foreign direct investment and the competitiveness of exports which creates incentive for capital and the state to repress wages. In Tijuana we see on paper that there are strong associational and institutional power, but due to a lack of material enforcement associational and institutional power are quite weak. There are also high numbers of migrants in Tijuana that were seeking asylum in the United States but have been captured in Tijuana's labor market. These migrants exist in a state of precarity like migrants in the United States.

There are also challenges to organizing in the transportation and warehousing sector independent of workers documentation status. The trucking sector is difficult to organize for multiple reasons. First, due to deregulation in the trucking sector a large percentage of truckers are independent contractors and therefore break anti-trust law if they are to use collective action. Also, there is an independent ethos in trucking due to the relative isolation of the job. Truckers, especially long-haul truckers, spend many of their working hours on the road alone. Because of these factors truckers can be difficult to organize. According to Shaun Martinez, an organizer from the International Brotherhood of Teamsters:

I would say a vast majority of truck drivers out on the road kind of fit into that description, where they do own their own truck, you are your own business ethos, independent streak. You spend a lot of time by yourself... So, if you look at where the Teamsters still have membership in trucking it is almost entirely with city drivers and maybe long-haul drivers that are connected to an overwhelmingly organized company like UPS, but yeah, the majority of the new organizing that we do with truckers is with city drivers and there is not quite that level of independence and there is a connection to the employer and all that kind of stuff. But that kind of culture exists broadly within the trucking craft. And you know, my understanding of history is that the trucking industry was largely organized, you know unionized, is pretty unique in the history of the world. Where even other countries with vibrant labor movements have struggled to organize

the trucking industry because of that independence and lack of connection to a workplace. But you know, truck drivers, especially within certain segments of the industry, for example in car haul, car haulers know each other, they spend a lot of time on the radio, bumping into each other at rest stops and what not, jumping around in the industry, so there is a lot of connective tissue there, but it is a challenge, in a lot of ways.¹²³

Here the organizer is discussing some of the difficulties in organizing truckers. Part of it is due to the independent ethos of truck drivers, especially long haulers. Because of deregulation, in other words a decrease in institutional power, the once vibrant truckers' movement within the Teamsters has decreased, meaning there has been a decrease in associational power. However, the organizer does mention that there is still capacity for organizing within the sector and there is a 'connective tissue' that can be used to make connections between workers.

Organizing truckers in the border region creates extra challenges because of the issues about institutional power due to immigration status discussed above. Truckers in the border region largely live in Tijuana and therefore exist in a state of precarity due to either marginalized documentation status or fear of being relegated to work on the other side of the border. Truckers that work on the other side of the border in Tijuana often must make cross-border hauls, which impacts their income because they are paid on a per haul basis and crossing the border comes with uncertain wait times. The longer the delay at the border the less trips they can make in a day (for discussion of cross-border trucking see chapter 2).

Despite the difficulties of organizing in the trucking sector, organizing warehouse workers can be even more difficult. Adding to the above statement Shaun Martinez says:

¹²³ Personal interview with author, August 23, 2022.

On the warehouse side of things, there is a much more transient workforce, folks do not stick around as long, I would actually say a lot of times we organize drivers before we organize the warehouse. And then we use the drivers to leverage the warehouse. The heavy lifting is done by the drivers because they got that professional kind of protection in a way.¹²⁴

As mentioned above challenges in the warehouse sector result from automation, the deskilling of warehouse work which make it easily replaceable, the use of temporary employment agencies, and an increasing reliance on highly precarious immigrant labor in the warehousing sector. This was substantiated at a later point in the interview with Shaun Martinez. He said:

It mostly has to do with you know warehouse workers being more easily replaceable. And so, people feel insecure about upsetting the applecart and demanding more of their employer. I would say that is the biggest factor in why organizing the warehouse is difficult. There are often times stronger relationships, although, people in non-union warehouses do not stick around super long, but you know we see in unionized warehouses where people work their whole careers in a warehouse and can retire... So, it is really about how, as an individual and as a collective, how replaceable you are once you start pushing back on your employer.¹²⁵

Here the organizer is citing the replicability of warehouse labor as a reason in which it is difficult to organize workers. In other words, there is a lack of structural power due to slack in the labor market which creates an obstacle to creating associational power. In San Diego-Tijuana the replicability of warehouse workers is made more acute due the industrial reserve army that exists in Tijuana. However, because workers are relatively well off due to the social reproduction

¹²⁴ Ibid.

¹²⁵ Ibid.

process taking place in Tijuana, workers tend to stick around longer in these warehouses, possibly setting up the conditions for building associational power through collectively organizing workers (see chapter 2 for discussion of transnational social reproduction and industrial reserve army).

Societal Power: Civil Society and Labor in San Diego-Tijuana

Societal power is made up of two sub-types of power—coalitional power and communicative power. Coalitional power is when labor organizations make coalitions with other civil society organizations such as social movements or community groups. Communicative power is when labor organizations influence broader social discourse around political issues (Lehndorff et al. 2018). When it comes to San Diego-Tijuana real independent labor organizations do not have strong power on their own. The union movement in the United States is at historic lows despite the uptick in strike actions since the COVID 19 pandemic. San Diego, despite being an urban center, is historically a conservative urban center when compared to other metropolitan regions in California (Davis et al. 2023). As noted above, Tijuana’s labor organizations have been quite weak despite having stronger rights guaranteed for workers enshrined in law and a stronger culture of organizing. This is because a lack of material enforcement of labor law. In what follows I discuss the opportunities for the region to build societal power by paying particular attention to coalitional power. This is because unions are weak in the region and without building out their organizations through coalitions, they have little potential to build communicative power.

When it comes to organizing in San Diego, and California more generally, some of the most important links that can be made are with immigrant rights organizations. This is because

such a high density of the workforce is made up of migrant labor. This is especially true in the transportation and warehousing sector. According to Sheheryar Kaosji at the Warehouse Workers Resource Center this has been learned over practice in organizing in the 21st century, particularly organizing during the Great Recession:

We really embedded with the immigrant rights movement that moment and really worked closely with them, partly because the unemployment rate was so high it was impossible to organize workers anyway. And so we were, like, you know, fighting ICE in the streets in 2009 and 2010 and that led to a culture in our organization, our community of like being really rooted immigrant rights... Over the course of a couple of years, we made partnership with some legal aid groups. So those kinds of tools that we were able to kind of work with... Also, there were the medium scale immigrant rights wins at the state level, several of which relate back to worker organizing and protecting workers. Having real awareness in our policy team led by me is important. We need to be focused on those policies saying like it is not perfect, but we do know this this side of things. Which is kind of another piece of our work. But a really important part of it is having a clear, a good immigrant rights network, both with attorneys and also with advocates. And then, knowing the stuff in inhouse that when people ask that question, you have a credible answer.¹²⁶

Here the organizer is discussing the importance of coalitions with immigrant rights groups and relatedly legal aid organizations to protect immigrant workers. By working with legal aid groups labor organizations can represent immigrant workers by protecting the institutional power they do have, even if that institutional power is less than a native-born United States worker.

¹²⁶ Personal interview with author, August 4, 2022.

Beyond a legal approach to immigrant rights labor organizers can use a networked social movement approach to organizing. Here it is important that labor organizers are committed to causes that exist beyond the scope of the workplace. According Sheheryar Kaoosji:

In a more meaningful movement building level there is not a lot of movement infrastructure. Our labor movement is pretty sleepy. It is getting better. The immigrants' rights movement was just coming together. It was a lot of really great individuals, and networks, but no real structure, or institutions at the time, and we were kind of, you know, getting blown out by the feds at that point because they were just running rampant and so establishing institutions that were able to organize and counteract what was going on was really important, because you know that was where the fight was and showing that we were not just service providers, but we're actually fighters was important... What we did was provide workplace direct, rapid response for migrant workers, that was our end.¹²⁷

Here a labor organizer is discussing the need to be a part of the immigrant rights movement as more than just as a tool for their own purposes. Instead, labor organizations need to show that they are committed to immigrant rights as its own end. That is because as a true member of a coalition organizations need to be supportive partners of other movements within the broader social movement network. This is in-line with what Rucker advocated for in terms of labor organizations being in coalition with civil society organizations as part of a broader social strike.

Beyond immigrant rights there are other social movement groups that impact the San Diego-Tijuana region's transportation and warehousing sector. For example, community groups and environmental groups often will oppose the construction of new facilities. This creates a direct conflict between labor and the community. Often community members want same and

¹²⁷ Ibid.

next day delivery for the goods they order, but do not want large warehouses and truck traffic close to schools and homes in their neighborhood. This is often referred to as a NIMBY (not in my back yard) approach to local politics. While these concerns are real, they put labor at a crossroads with the rest of the community. Where labor unions are part of the urban growth machine because they want job growth in the region other community groups may advocate for production and distribution to take place in other places away from where they live and where their kids go to school. According to Lenny, an industrial real estate broker:

We need a lot of municipalities to help us in these developments to bring more product to market because there is a need for it. But the challenge is that some of these municipalities have a different mindset because they don't want to see industrial development in their cities and it's becoming more challenging. Not only the officials but the residents, obviously they are voting on all this, so both the city officials and local residents have a big stake in helping or creating challenges for these developments to take place.¹²⁸

Adding to this an executive of an industrial real estate development company, Kyle said this was one of the most pressing issues for development. He said:

There is a constant tension between... the demand for goods and the expectation for delivery timeline which is creating this boom that everyone is experiencing. There is the other side of that, warehouses, and trucks, and the environmental impact and the impact on communities and kind of the not in my backyard phenomenon that comes from that and I can tell you the thing that is most interesting about our business right now is this interesting dichotomy between people that want goods and they want all the convenience of online shopping and rapid delivery, but no one wants semi-trucks blowing by their elementary schools or their house, or whatever, and so these communities are forced with really tough decisions about you know

¹²⁸ Personal interview with author, July 7, 2021.

warehouses popping up everywhere. There is going to be the interesting inflection point where I do not know what is going to happen in terms of if they just say enough is enough no more warehouses.¹²⁹

This was recently seen in Eastern San Diego County where residents of El Cajon sued the county of San Diego for permitting a new Amazon warehouse in El Cajon (Pearlman 2021).¹³⁰ Here residents' band together to block the construction of a new warehouse in their community. The problem here is that job growth in the sector is then blocked in the region. What needs to happen is a coalition between community groups and labor that ensures any additional warehousing space meets environmental and safety standards while at the same time ensuring good jobs for the community. Local governments have been afraid to impose such guarantees on companies like Amazon for fear of Amazon deciding to develop in another region. However, because e-commerce companies already have the incentive of building in the border region local municipal governments, San Diego and Tijuana, have more leverage in negotiating with Amazon and other companies. To push local governments to do this labor and community groups should band together to pressure their municipalities to fight for high environmental, safety, and labor standards in newly constructed warehouses.

The Power Resources and Disruptive Power at Amazon and XPO

Now that the power resources have been discussed in the context of the border region it is time to apply the power resources to concrete on the ground cases. For this analysis I draw on the drop off and pick up points discussed above. These are the points where goods change hands across the international boundary. As stated above these drop off points are normally warehouses

¹²⁹ Personal interview with author, June 29, 2021.

¹³⁰ Field work observation, May 19, 2021.

or trucking lots where goods that flow across the border exchange carriers. In the following section I will discuss the possibility of using the power resources to formulate disruptive power in a chokepoint at the Amazon warehouses and an XPO trucking lots in Otay Mesa, San Diego, CA. The reason these locations are on the San Diego side of the border is because most of the back-to-back trucking functions take place in the United States. This is because there is a power imbalance between truckers that drive in the United States and Mexico. Those truckers that drive in Mexico are forced to be the ones that cross the border and therefore bear the burden of border delays.

Amazon at Otay Mesa

In 2021, Amazon opened what at the time was their largest fulfilment center in California. This warehouse is over 3 million square feet and stretches across an entire industrial block. Shortly thereafter Amazon opened a second major fulfilment center directly across the street. These two warehouses are located adjacent to the Otay Mesa border crossing between San Diego and Tijuana and are located within the buffer zone where Mexican truckers are allowed to drive in the United States. Goods that are trucked across the border crossing destined for the United States from Mexico are unloaded at the Otay Mesa facilities.

The functions of the warehouses are somewhat debated. As discussed above in chapter 2, Amazon officially denies that the warehouses are used for international trade. Instead, Amazon claims that the warehouses are used to fulfil goods to the local domestic market. This is highly unlikely due to their proximity to the border as well as the sheer size of the facilities in relation to the size of the San Diego consumer market, which is a medium sized metropolitan area. Also, other information that came to light during data collection confirmed that the warehouses may

very well be used for international trade. First, Gustavo De La Fuente from the Smart Border Coalition told me that Amazon was using its warehouses in the border region to intake Section 321 imports to mitigate tariffs.¹³¹ The Smart Border Coalition works with firms in the region to navigate the border. Second workers at the facility have not been able to confirm where goods are coming in from due to isolation in the workplace, but they have been able to confirm that goods that leave the facility are not just sent into the San Diego consumer market, but instead are sent out nation-wide. According to George, an Amazon worker and organizer at the Otay Mesa facility:

The packages go out either to our sister sortation center right across the street, but a lot of them go there and then they are spread out from there nationwide actually. I have heard of some being sent to New York even. I think the biggest ones are in LA, Nevada, Vegas area, LAX 9 or something, and then Portland and Arizona.¹³²

This implies that the goods are being taken in from the other side of the border. That is because There would be no reason to re-route goods destined for markets as far flung as New York through the San Diego area unless they are coming from a location nearby such as Tijuana.

Because these warehouses are used to intake goods coming from the other side of the border they can potentially be used as major chokepoints in Amazon's supply chain network. One reason is because they have structural power. As previously stated, Amazon intentionally builds in redundancies in its supply chain networks to avoid possible stoppages at a given

¹³¹ Personal interview with author, June 13, 2022.

¹³² Personal interview with author, July 29, 2022.

facility. According to Peter Olney when asked about organizing with Amazon's network redundancies in mind he said:

You are absolutely right. The redundancy is built in. They describe that redundancy when I toured their fulfillment center right before the pandemic up in Sacramento. They described that redundancy and said if we do not have the product here, we will have it in Newark and we will fly it in next day. So, using technology and these algorithms they definitely have built in redundancy not only for thwarting unionization, but also for responding to the market, so that is going to make it a big challenge and therefore the strategy needs to dig deep into figuring out what are the potential chokepoints and how [work stoppages] would impact them. For instance, it might not make sense if you are in a metro-area at one delivery station because you figure they would have the flexibility to move products to the other 6 delivery stations to handle that last mile same day delivery challenge. But if you were successful in organizing all of them then you might have something.¹³³

However, because the border region can be used to mitigate tariffs on Chinese imports for e-commerce companies the facilities in Otay Mesa is a key site for Amazon's supply chain network across the country. Therefore, workers in the Otay Mesa facility may have relatively stronger structural power due to their position in Amazon's supply chain network.

Despite, the relatively strong structural power workers have at the facility they have yet to stop the flow of goods in any meaningful way.¹³⁴ This may be due to a lack of associational and institutional power. Amazon has spent millions of dollars combatting union efforts. As of now the Amazon facilities at Otay Mesa are not organized. Part of the difficulties in organizing at Amazon is the nature of the work itself. Each day workers clock in and go to a television

¹³³ Personal interview with author, June 23, 2022.

¹³⁴ Personal interview with author, July 29, 2022.

screen where they are assigned a station number. They go to that station and clock in to work. Each day they are assigned a different station on a different floor. Because of this it is difficult to make meaningful connections with workers in the facility.¹³⁵ Once they are at their station, they are constantly surveilled. Speed and the movement of goods is a large focus of Amazon surveillance. According to George, a worker at the facility:

Yeah, speed is a big focus. It is super important so much so that it gets mentioned on the first, second, and third day throughout the training. There is an emphasis on TAKT time which is the time spent per item. If you don't have a very low TAKT time, like somewhere under the 9 second range then you get stuck on pick forever. You do not get to promote or go anywhere else you get stuck on picking which is one of the low-end jobs.¹³⁶

Because of the nature of the work, workers do not have time to socialize and organizing in any meaningful way becomes difficult.

Furthermore, even in break times and lunch workers find it difficult to make connections. This is because breaks are not long enough to do much more than go to the bathroom, get a drink of water, or have a snack. According to George:

Our breaks are what is called scan to scan... your break starts the last item you scan. You scan an item you put it in a tote, and you send it down and then that is when your break starts. It can take up to two minutes to sign out of your station, another 5 to get to the break room, and then sometimes 5 to get back so the breaks are dependent on where you are working. And then your break ends the first item you scan... A lot

¹³⁵ Ibid.

¹³⁶ Ibid.

of people take their breaks actually in their workstation leaving some people to never leave their 10 square foot area throughout the 10 hours they work.¹³⁷

Here it is shown that the nature of the work is isolating making it difficult to build associational power.

There are also seven different departments in the building, all of which have limited interaction with one another.

Inbound doc is where they receive all the shipments, and then decamp is where they scan them into inventory, and then another department is stowing where they put the items onto the robots, onto the shelves. Picking is where I am, so we just take it off the shelves and put it onto a tote, the small brief case type of box , it gets sent on a conveyor down to one of three different types of pack – special pack which, are the white bags, those are actually giant multimillion dollar machines packages those, that’s called special pack, for oddly shaped small items; and then multi-pack if you have multiple items; and single pack if you have one item. And then from there from one of those three areas it goes to outbound where it gets put onto trucks.¹³⁸

Again, the labor process of separating workers into specialized departments makes it so there is little communication between workers at different stages of the warehouse. Furthermore, because this is an advanced robotics facility most of the movement between departments is handled by automated processes. This makes it difficult to forge connections across the warehouse.

One of the major issues with organizing Amazon across the country has been the high turnover rate at the company due to the less than adequate working conditions. In fact, a leaked

¹³⁷ Ibid.

¹³⁸ Ibid.

internal memo indicated that the company would run out of workers in key labor markets in the next five years (Del Rey 2022). According to Shaun Martinez, an organizer with the International Brotherhood of Teamsters:

I would say on the turnover front Amazon is even an outlier within the warehousing industry. You know before Amazon was the major player in warehousing a big issue, we would talk about all the time were perma-tmps. You would hear stories about a person who had been working at the same warehouse for 7 years and they are still employed through the temp agency... There would be a big contingency that turned over quite a bit, but there would also be a significant portion that stuck around for years and then they would bounce somewhere else. But now Amazon with over 100% turnover and if you are there for 8 months you are a long timer. They have just taken that to the next level. There is definitely difficulty within that.¹³⁹

Here the organizer is discussing how it is difficult to organize when people do not stick around and decide that in the face of deleterious working conditions, they are going to get employment elsewhere.

However, there are also opportunities for organizing Amazon workers. First, Amazon workers are direct hires of the company (Ciccantell et al. *forthcoming*). Therefore, there is not the extra layer of institutional barriers as compared to organizing temporary workers. This means that workers at Amazon have relatively more institutional power as compared to subcontracted workers because they are able to engage in direct labor struggle with the company. Next, the Otay Mesa facility does not have the same turnover rate as other Amazon facilities. This is because workers often exist in a state of precarity as residents of Tijuana and do not want to lose

¹³⁹ Personal interview with author, August 27, 2022.

their jobs and be relegated to work on the other side of the border. In fact, workers that work in the San Diego Amazon facility earn over 10 times what workers in the Tijuana facility on the other side of the border earn for the same work. This causes people to stay in their jobs for longer in the Otay Mesa facility. Management at the Otay Mesa facility was very proud of being a leader in worker retention at Amazon without acknowledging the underlying processes created by the border.¹⁴⁰ The low turnover coupled with the community ties of commuter migrant workers lead to a unique terrain for organizing at Amazon. According to an organizer from the International Brotherhood of Teamsters:

I think that Otay [Mesa] facility is somewhat of a unique organizing terrain for Amazon because the low turnover rate and because you know the folks that are crossing the border to go work there probably have more community ties than the folks that are State side.¹⁴¹

This was confirmed to be true by George, a worker and organizer at the facility:

Our facility is kind of weird in so far as... people will live in the same apartment building in Tijuana so people will know each other outside of work. Which I guess is something that is not common at a lot of Amazon... A huge thing that has been really beneficial to organizing have been carpool group chats, people carpool all the time, couch surfing group chats where people have a place to crash in San Diego while they work here while their house is in Tijuana so there are a lot of weird connections – a lot of family work at the warehouse so there will be siblings, fathers, mothers, husbands, so the ties are oddly deep in the building.¹⁴²

¹⁴⁰ Otay Mesa Chamber of Commerce, “Breakfast with Amazon.” Field Work Observation, April 6, 2022.

¹⁴¹ Personal interview with author, August 27, 2022.

¹⁴² Personal interview with author, July 29, 2022.

Here a worker and organizer at the facility is discussing how what we normally would think of as a lack of institutional power—living on the other side of the border—has translated in a way to build worker power. That is because in the unique terrain of organizing at the Otay Mesa facility Amazon workers live in the same communities and have social ties for the reasons listed above. Therefore, they can communicate and build connections even if it is difficult to communicate at work. Also, commuter migrant workers, due to their precarious status are staying at the Otay Mesa facility longer than Amazon workers at other facilities. This is a unique example of how a lack of institutional power can potentially lead to an opportunity to build associational power.

Despite not formally having a union at Amazon workers are organizing at the Otay Mesa facility. According to one of the labor leaders at the facility:

We have had a number of different actions and a number have happened outside of us as well. I guess initially we had a lot of issues with heat in the building... I forget how hot it was, but the AC [air conditioning] broke, I think immediately after Thanksgiving. That weekend the AC broke, and people were sweating through their shirts at 8AM and we are also on mandatory extra time at that time and a group of coworkers, myself and 9 other coworkers, we confronted operations managers about it and immediately they gave us water and let us take as many breaks as we wanted after the confrontation. They had not addressed the heat before and they had refused to even talk about it but after that they sent a mass message to every employee about if it is affecting them, they can get a bandana wet. After that we faced an extended period of mandatory extra time. It was supposed to last a month, but it ended up being two and a half months, and this was 50 hours a week, around the middle of that we organized a petition drive with a bunch of different demands including: pay, transportation, COVID testing because at one point during the height of omicron we were getting 40-50 cases a day sometimes 60 for about a two-week span. And so, we demanded COVID tests on site, a two dollar pay raise because I believe we are the lowest paid Amazon in California, transportation from the two border crossings as well as the trolley station because people had to walk 4 miles additional to the up to 12-mile walks that you must do while you work, as well as equal

workloads because workloads were not distributed equally. 7 different points as well as living salary too. We got 635 signatures on that petition, and we delivered it as a group when they refused to meet with us the next week to give us a response, we circulated flyers as well as bombed the VOA [Voice of Associates] board and we got the shuttle a week later... from the Otay Crossing [for commuter migrant workers].¹⁴³

While workers have won a shuttle from the border crossing for commuter migrants these organizers have struggled to get their other demands met. Management initiated a pay review, but they have yet to raise the pay. They also formed a committee for safety and equal workload, but the results of this have been minuscule. Lastly, COVID tests were not provided until the tail end of Omicron when they were not as needed.

Some Amazon workers are also interested in joining a union. However, as can be seen from the story above workers are organizing without union representation. This has caused some workers to be skeptical of bigger more established unions that want to come in from the outside and organize Amazon. According to George, a worker organizer at the facility:

There have been talks of it [unionization], most people want to focus first on just winning fights on the shop floor, first thing building a culture of care for each other I think that takes the primary effort around it. Union recognition has been brought up I think that most people understand at least, or a lot of people have been burned by different unions, so they understand the difference between a quote-on-quote good union or a bad union. There has actually been a lot of hesitancy to talk to established unions so union recognition has been a bit of a sideline. I think a lot of people just see ourselves as activated employees, an employee organization trying to protect each other.¹⁴⁴

¹⁴³ Ibid.

¹⁴⁴ Ibid.

Here a skepticism is being raised about joining an established union. This points to the need for established unions to come in and support workers that are already engaged in organizing rather than using a one size fits all organizing approach (Reese and Alimahomed-Wilson 2022).

Lastly, workers at Amazon have options to tap into societal power through building coalitions with outside groups as well as impacting broader public discourse. Amazon has become somewhat of a flashpoint for labor issues due to their less than adequate working conditions as well as their corporate power. Other groups such as environmental groups, anti-corporate power groups, and groups concerned with privacy and civil liberties may take issue with different parts of Amazon's business model. If workers can build coalitions with these groups, they can advance their own cause on the shop floor. Furthermore, public discourse around Amazon tends to, at least in certain progressive circles, be quite negative. Building on these pre-existing mores regarding Amazon may help workers build corporate campaigns and boycotts that can help them leverage their workplace power. Due to the high density of migrant workers at the facility workers can also build coalitions with immigrant rights organizations.

In total the Otay Mesa facility has different power resources that may help the workers build a robust labor movement. They have structural power due to their position within Amazon's supply chain network. They are building associational power due to their unique labor market and the lack of worker turnover. However, there are also constraints to that associational power due a lack of institutional power for commuter migrant workers. Because Amazon has become a flashpoint for a host of groups concerned with the well-being of society Amazon workers also have the opportunity to build societal power. Because of this combination as well as the functions of the facility being tied to international trade and tariff mitigation the Otay Mesa facility may be one of a few irreplaceable nodes in Amazon's supply chain network. Because of

this, workers at the facility may have the ability to use disruptive power and form a chokepoint at Otay Mesa.

Because the facility employs so many migrant workers it would be unwise to take a Polanyi-type labor approach and exclude these workers from organizing. This would only serve to split the labor market. In fact, building coalitions with immigrant rights organizations is a strategic approach to build societal power. Instead, workers should take a transnationalist—Marx-type and Rucker-type approach—to organizing. If workers are focusing on using their disruptive power by locating themselves within the broader division of labor as well as building coalitions with civil society, they would be acting as a Rucker-type labor movement.

XPO at Otay Mesa

XPO Logistics, while not being as brand popular as Amazon, is the third largest logistics trucking company in the United States. XPO is only outdone in sheer size by the brand name 3PL firms UPS and FedEx. When you are driving around on the highway you are likely to see these trucks with white containers that read XPO in red on the side.

In the border region XPO operates two trucking lots where truckers can offload cargo from across the border in Tijuana or offload cargo from the twin ports of Los Angeles and Long Beach that is destined to cross the border into Tijuana. These drop off points are where goods and inputs need to change hands to make their way further into the interior of either country. This is because trucking law on both sides of the border disallows long haul trucking outside a buffer zone for truckers with trucks registered on the other side of the border (for detailed analysis of back-to-back trucking see chapter 3).

XPO truckers at these lots have some level of structural power due to their positionality along XPO's international supply chain that crosses the United States-Mexico border. Dropping goods at lots around the border region is an essential part of transborder trade because of the way trucking law is set up. However, because XPO is not an e-commerce company that relies on the border to mitigate tariffs there are more network redundancies in their supply chain.¹⁴⁵ For example, if it became difficult for them to move goods from Tijuana into the United States consumer market, they can truck goods directly from the twin ports of Los Angeles and Long Beach into the interior of the United States because if the goods are not part of an e-commerce supply chain, they are no longer saving money due Section 321 importations. Nonetheless transborder trade has become more popular due to tariffs on Chinese manufactured goods and therefore truckers do have some level of structural power due to their positionality along the cross-border supply chain.

The associational power of these truckers is inhibited due to their classification status. This results in a lack of institutional power for independent contractors when it comes to negotiating with companies. Not all XPO truckers are independent contractors, but XPO does not directly employ their port truckers—which means that both truckers that take goods from the ports of Los Angeles and Long Beach to Otay Mesa and truckers that cross the Otay Mesa port of entry are independent contractors (Lockridge 2022). Due to this classification the company can distance themselves from responsibility for their workers in terms of legality, social security, health insurance, and a host of other obligations companies have for their employees. Also, because these independent contracted truckers have the overhead of running their own business, a new set of workers emerges known as second seat drivers. Second seat drivers are drivers that

¹⁴⁵ It should be noted that XPO carries goods for other firms, so any goods they are carrying for the e-commerce sector may need to cross the border in the same way that Amazon's goods do.

are technically employed by the independent contractor rather than the company. These drivers drive the truck of the independent contractor, but still are dispatched by XPO. The reason second seat drivers exist is because independent contractors cannot make enough money to cover the overhead of owning their truck because they are not allowed to drive more than a certain amount of hours a day. Furthermore, workers that cannot make the investment of owning their own truck can drive as a second seat driver. These drivers are often in a hyper-precarious position because they have two authorities over them—XPO and the independent contractor.¹⁴⁶

Because drivers are not classified as XPO workers, but rather as independent contractors or employees of independent contractors these truckers are not allowed to organize to collectively bargain with XPO without breaching anti-trust law. According to a press release from the International Brotherhood of Teamsters (2022):

The drivers seeking to form a union at XPO Logistics have long been misclassified as independent contractors, a legal designation that denies them basic rights and benefits including health insurance, paid sick leave, a guaranteed minimum wage and overtime pay. Because federal labor law prohibits independent contractors from forming a union, companies like XPO purposefully misclassify workers as independent contractors to deny them that right.

This has made a legal strategy one of the most important tools available to XPO truckers. Truckers can file class action lawsuits and unfair labor practice charges. One organizer and former XPO truck driver told me that this strategy has made up the bulk of his organizing in Otay Mesa.¹⁴⁷ Second, the truckers with help of the Teamsters are fighting for reclassification as

¹⁴⁶ Interview with author, May 19, 2021.

¹⁴⁷ Interview with author, August 22, 2022.

workers by filing an unfair labor practice charge. The National Labor Relations Board heard the case and determined that the port drivers were indeed workers. This would allow workers to vote to certify a union which they did shortly thereafter with the International Brotherhood of Teamsters (Kingston 2022). This is an example of how building institutional power by getting classification as workers helped truckers to build associational power. However, XPO is appealing the decision and has deep pockets to drag the legal battle out. This is where having an established union like the Teamsters that can fight this legal battle on behalf of the truckers is helpful.

These actions by truckers have not come without consequences and discipline for the truckers that participated. One day as I stood outside the XPO lot with Teamsters' organizers to meet truckers I was introduced to a driver that had participated in the class action lawsuit. He told me he would come right back to answer some of my questions after he went inside to dispatch to see what his route was for the day. We waited for close to an hour for him to come out, but he never did. The organizer I was at the lot with explained to me that he most likely was being disciplined for participating in the collective action.¹⁴⁸

Workers in the trucking sector do not have as much potential for societal power as those that work at Amazon. Amazon has become a household name with many varied interests that have stakes in social struggle against the company. Truckers on the other hand are often seen as having employment in a dying profession that will be taken over by self-driving trucks or as having employment in a dirty profession that causes pollution and traffic in local communities. This makes it even more important to educate surrounding communities about the working conditions and lives of truckers as a way to build societal power. It also makes it more important

¹⁴⁸ Field work observation, May 19, 2021.

to use the other types of power at the disposal of truckers due to a potential lack of coalitional power. In Otay Mesa, because most of the truckers migrate across the border each day to work, building coalitions with the immigrant rights movement in San Diego could be another potential benefit for the XPO truckers.

Lastly, XPO truckers, like Amazon workers have the potential to use disruptive power due to their location in the border region. XPO truckers have wielded this power in the past, which Amazon workers have yet to do. According to an oral history account done with organizers at the Teamsters Local 542—the local that represents these truckers—disruptive power has been something used by militant minorities at the trucking lot since before they had gained institutional power through the unfair labor practice charge discussed above. Militant truckers targeted the XPO lots in the Otay Mesa region to protest the meager pay they were receiving when moving inputs from the twin ports of Los Angeles and Long Beach down to the Toyota plant in Tijuana. Truckers formed a picket at the exit and entry points at the Otay Mesa XPO lots to disrupt the flow of goods. What started as a minority strike with only a handful of drivers forming picket lines at the two lots swelled to a movement with about 40% of the drivers.¹⁴⁹ However, this action did not come without challenges. Because workers are independent contractors, they are paid on a per haul basis. Without the associational power to get workers on the same page some workers were angry with the picketing drivers because they could not get their loads and therefore could not get paid for the day. This resulted in hostility between the drivers. Also, because freight movement companies tend to be less fixed in place than production firms XPO was eventually able to subcontract other lots in the region and move goods across the border.¹⁵⁰ All that being said, truckers despite not having formal union

¹⁴⁹ Personal interview with author, May 19, 2021.

¹⁵⁰ Ibid.

recognition, and at the time still classified as independent contractors, were able to leverage their disruptive power through militant minority actions.

Because the independent contractors at XPO mostly live in Tijuana there is not much of an option to use a Polanyi-type labor approach which would protect labor markets from migrant labor. Also, because these truckers are dispatched to carry out international trade taking a stance against trade would be counterproductive. Workers with legal status in the United States could take a stance against new migrants gaining access in their labor market, but in my time spent around truckers this did not seem like a concern. The truckers had pride in living in Mexico and being Mexican, at times joking with me about my white skin and my interest in labor in the border region. By using a militant strategy to disrupt the supply chain as well as taking transnationalist approach these truckers have already displayed a stance that aligns with Rucker-type labor unrest.

Conclusion

This chapter outlined the power resources approach in relation to the San Diego-Tijuana transportation and warehousing sector. I discussed the way in which associational power and institutional power were tightly linked in the region. Associational power or the existence of collective organizations in the workplace is impacted by the rights workers have. In the border region the lack of institutional rights immigrant workers have impacted their ability to organize in the workplace. Structural power is strong in the region because trade across the international boundary is necessary for firms to maximize profits. Because of this firms need to move goods and inputs across the international boundary as well as exchange goods near the border for those goods and inputs to move closer to their next stage in the production and distribution process. In

the border region this results in workers in the transportation and warehousing sector being tightly enmeshed in larger production and distribution networks. Because of this they have relatively high structural power. However, the structural power of workers is also impacted by slack in the labor market. Because there is a bi-national industrial reserve army the structural power of workers may be weakened. Lastly, I discussed societal power in the border region. Because migrant labor is such a large part of the labor force in the border region, I recommended that worker organizations pair with migrant rights organizations and their associated legal aid organizations. Also, because growth in the transportation and warehousing sector can lead to dissatisfied communities due to a rise in pollution and traffic, I recommended that communities and worker organizations band together to hold companies accountable to high environmental, safety, and workplace standards. I also expanded upon the concept of disruptive power (see Kassem 2022;2023) and placed it in relation to other types of worker power in the power resources approach. Disruptive power comes from the ability to halt the flow of goods in important nodes in production and distribution networks and create a chokepoint through direct action. Disruptive power can impact firms and the economy at larger scales as compared to just the workplace.

I also discussed different types of labor movement strategy. I drew on Silver's (2003) depiction of Polanyi-type and Marx-type labor unrest to make a distinction between protectionist labor strategies meant to push back against globalizing forces and the strategies of new emergent working classes as a result of globalizing forces. Because neither of these types of labor unrest aligned perfectly with supply chain organizing as a strategy for labor I introduced the concept of Rocker-type labor unrest, which draws on the writings of Rudolph Rocker (Rocker 2004 [1938

original]).¹⁵¹ Rocker-type labor unrest refers to labor organizing that focuses on impacting the broader division of labor within society by focusing on nodes that are important to globalization, organizing transnationally across the supply chain, as well as organizing with civil society organizations. All strategies I recommend at the current conjuncture in the border region.

To show how this all works on the ground I used the Amazon and XPO facilities in Otay Mesa as illustrative sites. Both facilities have the potential to use disruptive power due to their position within broader production and distribution networks—largely having to do with the structural power of the facilities because of their location in the border region. However, both facilities face structural constraints due to a high level of precarity due to a lack of institutional power.

At Amazon many workers commute from across the border and therefore are fearful of losing their job and needing to work in Tijuana where they would earn less. However, because workers are tied to the work due to fear of relegation to the Tijuana side of the labor market, they stay at the facility for longer as compared to other Amazon distribution centers possibly leading to the conditions to build associational power. Also, because workers need to commute across the border from Tijuana, they end up having stronger social ties to one another due to staying with co-workers in San Diego during the work week, commuting together, and living in the same neighborhoods in Tijuana. Workers at the Amazon facility have yet to use disruptive power but have been able to confront management at the facility on a variety of work-related issues. Amazon workers also can form coalitions with broader civil society due to negative discourse around the company. Thus, workers have the opportunity to build societal power.

¹⁵¹ Marx-type labor unrest aligns better than Polanyi-type, but neither are a perfect fit for describing current calls for direct action, coalitions with civil society, and organizing along the supply chain.

At XPO truckers face misclassification which inhibits them from joining a union and collectively organizing due to anti-trust law. Recently, drivers at XPO filed an unfair labor charge on the company. The National Labor Relations Board ruled in their favor making it possible for them to join a union. XPO has appealed this decision. The case is ongoing. If drivers are re-classified as workers, they will be able to build associational power. This is an example of how gaining institutional power can lead to associational power. However, XPO drivers will still face some of the difficulties discussed above that come with living in Tijuana and working in San Diego. I also argued that building societal power may be more difficult for XPO drivers as compared to Amazon workers due to the lack of social awareness and broader social discourse around the company and the trucking profession in general.

Lastly, I recommend that workers at these facilities take a Rucker-type approach to labor unrest. At this point in time globalization has entrenched itself into the economy. A Polanyi-type approach which aims to protect domestic markets is outdated and only serves to split the working class into national contingents. A Marx-type approach, while not nationalist, still does not deal with the networked nature of supply chain capitalism nor does it deal with civil society partnerships. I call on workers to heed the advice of Rudolph Rucker in terms of taking a transnationalist approach, focusing on critical places within the international division of labor, as well as forming coalitions with civil society organizations to gain better living conditions and to create a more just social order.

Chapter 5 – Future Research, Reconstructing Commodity Chain Analysis, and Labor Transnationalism

In this dissertation project a wide array of topics were covered. In sum, the main arguments that were made are as follows: first, the border is both a fixed, but socially and politically produced, line demarcating belonging as well as a malleable legal concept that facilitates the accumulation of capital. It is a fixed line in that it separates populations and creates heterogeneity in the labor market as well as other markets such as real estate (Mezzadra and Nielson 2013). It is a malleable legal concept in that strategies of bordering can be used further in the interior of countries to facilitate capital accumulation (Orenstein 2019). In the case of this study bordering is used within the United States to defer and mitigate tariffs when goods arrive from overseas. Using bonding in shipping, goods can move across the United States or from within the United States across borders to other countries without triggering tariffs. While goods move across the country in bond a border is inscribed upon a moving object such as a truck or a train so that goods technically sit outside of United States customs territory while they are within the physical territory of the United States. The same is true in Mexico. Goods and inputs can enter the border region of Mexico for up to two years without triggering a tariff due to legal engineering that allows certain parts of the production and distribution process to sit outside of Mexican customs law. In the case of e-commerce goods can be sent directly from Mexico—or elsewhere—to the United States duty free using a Section 321 import (discussed in detail in chapter 2) so long as the importer, in this case the consumer, imports under \$800 a day worth of goods. This has created the demand to move finished goods from places like China through the border region before their final point of sale back in the United States.

Next, because of these phenomena to facilitate the accumulation of capital San Diego-Tijuana has become a place where the valorization of capital takes place. Therefore, there has been urban development in the transportation and warehousing sector in the region. It was argued that there were five different factors shaping this place specific development. First, an increase in cross-border commercial traffic. Growth in the transportation and warehousing sector is positively correlated with growth in the circulation of goods across the border. Next, the signing of trade laws and the implementation of barriers to trade have combined to create demand to warehouse and ship through the border region. The signing of the Trade Enforcement and Facilitation Act of 2015 by the Obama administration, which increased the amount of goods that could be imported into the United States under section 321, caused a rise in cross-border traffic and therefore a growth in the transportation and warehousing sector. The Trump administration's trade war with China has increased the demand to warehouse in the border region. These efforts can be seen as a bi-partisan project that has unintentionally created demand for warehousing space and relatedly transportation and warehousing labor in the border region. It was also argued that growth in the e-commerce sector in both the United States and Mexico has contributed to logistics centered development in San Diego-Tijuana. E-commerce relies on warehousing rather than brick-and-mortar storefronts to sell retail goods. However, the growth in San Diego-Tijuana was highly regionally specific signaling the cross-border functions within the sector. In this way the sector leverages the border to facilitate the accumulation of capital. Furthermore, there has been a growing investment in infrastructure at and around the border. Bi-national projects at the national, state, and city level are currently underway. These projects are facilitated at the city level by bi-national regional planning organizations. Lastly, contingency in competing supply chains such as the United States-China trade connection has contributed to

urban growth in the transportation and warehousing sector in San Diego-Tijuana. This is for multiple reasons. First, some companies are moving production into the border region of Mexico due to supply chain delays and tariffs on trade with China. Second, because e-commerce firms can maintain their production patterns in China and use Section 321 imports to get around the newly added tariffs on trade with China the border region is becoming a popular place to circulate goods due to Mexico's border region geographic proximity to United States consumers. Finally, because of stress on supply chains due to the COVID 19 pandemic companies are moving from a just-in-time model to a just-in-case model. This means companies are stocking more goods to hedge against of supply chain disruptions. Because stocking goods in warehouses costs money companies prefer to do this where labor and warehouse space is cheap. Due to the proximity to the United States consumer market firms are choosing to just-in-case warehouse in the border region of Mexico.

Lastly, an analysis of labor in the region was done. It was argued that because the border region is becoming a necessary place for the accumulation of capital labor can strike back in the region. Locating strategic positions to fight back against a logistically integrated capitalism is necessary for class struggle. It was argued that the border region is one of these places due to the difficulty of replacing it as a node within supply chain networks. If companies were to use other supply chain routes, they would be left paying tariffs or would need to pay to re-route goods to other locations which would affect their bottom line. This is particularly true in the e-commerce sector. Two cases were used in this analysis—Amazon and XPO Logistics in Otay Mesa.

In the rest of this conclusion, I discuss three themes for further inquiry. First, I discuss future research to be done for a more complete analysis for my forthcoming book project based on this dissertation research. Next, I theorize reconstructing commodity chain analysis in the

world-systems tradition with a special attention to borders and logistics as driving factors in expansion and differentiation in the world economy. Lastly, I discuss the importance for labor transnationalism and why border regions are key sites for building transnational labor coalitions. In this last discussion I call on workers, academics, and activists to begin to dismantle hierarchical difference in labor markets as a challenge to capitalism.

Further Analysis

While this dissertation project is robust in its analysis there are components that still need work. First, the sample of respondents for interviews should grow. While I was able to identify key stakeholders in the region and gather useful information, I would like to get more perspectives from different standpoints. For example, the workers that were interviewed all worked in San Diego. While some of them lived in Tijuana, I did not have access to those workers that work in warehouses south of the border. Including those workers in the analysis will give me a better understanding on questions of chokepoints south of the border and labor transnationalism.

I also would like to follow up on some of the claims made about infrastructure in chapter 3. Due to my time spent around city planners and third-party agents I learned a lot about plans for cross-border infrastructure. In fact, the Smart Border Coalition paired with UC San Diego's Rady School of Business is currently offering prizes for students to streamline logistics across the border. Many of these proposals remain unfunded and as merely ideas. Following up years down the line to see what has procured funding and what border logistics look like is of great interest to the final analysis.

Perhaps most pressing is analysis of data to measure growth in the transportation and warehousing sector in San Diego-Tijuana from 2018-2023. As stated above data on the Tijuana side of the border is only available every 5 years. The data for 2023 will be ready at the beginning of 2024. Doing another shift share analysis to measure the growth in the sector since the implementation of Donald Trump's trade war with China is of great importance to the project. While my qualitative data hints that growth will exceed the growth of even the five years before it—which had substantial growth—quantitative analysis will confirm this. Furthermore, due to the COVID 19 pandemic I expect stronger industrial shifts in transportation and warehousing. This is because as buying patterns went online due to stay at home orders more goods went out of brick-and-mortar stores into e-commerce warehouses. This would imply that there will be strong industrial growth in the transportation and warehousing sector across the entire base geography—either the United States, Mexico, or United States-Mexico.

Lastly, with more research time an extensive comparison could be made between San Diego-Tijuana and the other transfrontier metropolises at the United States-Mexico border. While informed conjecture was made as to why San Diego-Tijuana was growing faster than other cross-border cities this analysis could be systematized with more data collection. A Qualitative Comparative Analysis (QCA) could be used on this medium sized N comparison. QCA uses Boolean algebra to make comparisons. This means that it can show multiple causal pathways to an outcome—in this case growth in the transportation and warehousing sector. QCA is particularly effective when researchers want to understand what caused a divergence in outcomes between cases (see Ragin 2014). The divergence in outcomes would be between those cities that had certain types of growth vs. cities that did not have those types of growth. Variables that could be used in the comparison could be factors such as: distance to nearest ocean port,

level of manufacturing in the city, access to highway infrastructure, access to rail infrastructure, and size of consumer market within the city.

Reconstructing Commodity Chain Analysis Through Logistics and Borders

World-systems analysis has premised itself on the study of “a historical system marked by a world-scale division of labor and phases of expansion and contraction” (Hopkins and Wallerstein 1986:157). Central to understanding this world-scale division of labor has been commodity chain analysis. Hopkins and Wallerstein (1986:159) define a commodity chain as a “network of labor and production processes whose end result is a finished commodity.” The assumption in commodity chain analysis is that capital accumulation is “initiated primarily through the transformation of the trade of surpluses between distant points into a true division of labor with integrated production processes crosscutting political jurisdictions” (Hopkins and Wallerstein 1986:158). Therefore, commodity chain analysis pays attention to the integration of multiple political spaces within production and distribution networks. However, as Hopkins and Wallerstein (1986:158) argue, “The boundaries of this division of labor are therefore appropriately defined by the effective geographical reach of the production and labor processes thereby integrated, and not by town or national boundaries.”

In contrast to Hopkins and Wallerstein (1986), as I have argued throughout this dissertation project national boundaries are indeed important in shaping the world economy because it is these borders that often serve to shape consciousness and create difference in labor markets. However, in agreement with Hopkins and Wallerstein (1986), these national boundaries are not important in and of themselves, but rather because of the geographical reach of the production and labor processes being integrated along a commodity chain. The difference

created in the norms for the remuneration of work through the technology of bordering along the commodity chain is one reason the world economy expands geographically. This is because capital seeks cheap labor to procure larger profits.

The other technology that allows capital to expand is the advancement in transportation or logistics technologies. Once transportation technologies can move goods and inputs from one part of the world to the next, commodity chains can expand into those regions. Once the calculation is made that cheap labor across national boundaries can be brought into the world-scale division of labor because transportation technologies can move the commodities to the next phase of the production and distribution process at a low enough cost the world economy geographically expands to that region—often through considerable imperialist violence. It is because of the integral influences of bordering and logistics technologies on the expansion of the world economy that I call for a reconstructed commodity chain analysis through the lens of logistics and borders.

As argued above these borders can be national boundaries or social borders so long as they differentiate labor in a way that is beneficial to capital. Bordering technologies could be the actual cartography of new political designations or regulation that grants full access to a group within a labor market while inhibiting full access to another. Logistics is not only advancements in transportation technologies, but also the management tactics and organizing logics of commodity chains that come along with it. Through a case study approach of important commodity chains, with a focus on the integration of the economy through the logistics and bordering technologies of the time we can begin to ask questions on how difference and integration, or, to use Mezzadra and Nielson's (2013) term, *differential inclusion* along commodity chains has shaped the world economy. When situating borders within historical

research it is instructive to use Mezzadra and Nielson's concept of the borderscape, which does not take social or political borders as given but rather as actively constructed through regulation and culture.

An example case might be the application of the steam engine to rail transport in the 18th century and the rail tracks laid down across Europe from the Isles to Austria a half century later in the 19th century paired with the social and political borders of identity and national belonging between Central Europeans and Western Europeans during that time. An example comparative question on this topic might be what was the division of labor before and after these transportation technologies connected the continent more seamlessly? And relatedly, how were ideas of racial superiority and inferiority in Europe shaped by the advancements in transportation technologies? Another example case might be the invention of deep-water capable ships and the integration of the Americas into the world economy. Again, questions could be asked on the social and political borders that existed between Europe and the Americas and the way in which transportation technologies integrated the world economy and impacted these social relations. Furthermore, questions could be asked about the colonial division of the Americas through bordering and how that facilitated capital accumulation across different colonial contexts. Questions across time and space abound, but the important aspect to center is the relationship time-space compression through logistics technologies and time-space separation due to bordering technologies have to development in the world economy and relatedly the exploitation of workers.

Labor Transnationalism at the Border

In the *Manifesto of the Communist Party* Karl Marx (1848) proclaimed “Workers of the world unite. You have nothing to lose but your chains!”¹⁵² Almost two centuries later labor transnationalists still have a dream of workers of the world uniting. Unfortunately, national attachments and the particularisms of racism and sexism have got in the way of a universal working-class consciousness (see Robinson 1983). In this way we can see that racism, sexism, nationalism, and a host of other hierarchies between social groups are not something to be solved after an eschatological event in which class has been removed, but rather these hierarchies are tools for capital and obstacles for workers in class war (see Robinson 1980 for a description of eschatological time). The intellectual question is: why have these ideologies been so resilient across time? Whereas the political question is: how do we remove the particularisms of racism, sexism, and nationalism in favor of a labor movements that is fully de-bordered?¹⁵³

By locating research in the border region one can begin to uncover the ways in which borders impact workers. First, because it is the geopolitical border that divides the working class into different regimes of regulation noticeable differences exist between norms for the remuneration of work within a close geographic proximity. Workers in the region are aware of this. Asking questions as to why these norms exist and whether workers would be willing to join in arms with their comrades on the other side of the border will clarify how these hierarchies are maintained as well as the possibilities for overcoming them. Furthermore, because workers commute across the border for work understanding the social ties that are in place with workers

¹⁵² “Workers of the World, Unite. You have nothing to lose but your chains!” Is not found in any official translation of the *Communist Manifesto*, but rather is a popularization of the last three sentences of the work. The actual translation would be “Proletarians of all countries unite!” (Marx 1848).

¹⁵³ Of course, these questions are both political and are related to one-another as you need to understand the durability of particularisms to understand how to break them. This follows Marx’s (1845) claim that “Philosophers have hitherto only *interpreted* the world in various ways; the point is to *change* it.”

on the other side of the border could be key to understanding how to form class consciousness across the border. It is not only political boundaries that should be investigated. Researchers must also ask questions on the borders constructed between racial groups and genders. Bringing the workers of the world together requires understanding the multiplicity of difference that divides the working class into contingents. Researchers and activists must also understand the way in which these borders have been constructed through cultural norms and state level regulation. It is only through understanding the numerous dimensions to the ways in which difference and capitalism co-constitute one another that we can begin to shape a more just and equal world.

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