POLITICAL FREEDOMS AND PRODUCTIVE FIRMS: EXPORTERS AND THEIR EFFECT ON TRADE POLICY IN DEMOCRACIES AND AUTOCRACIES

by

MEGAN ELIZABETH ROOSEVELT

B.A., University of North Carolina, 2012

M.A, University of Colorado, 2014

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Written by Megan Elizabeth Roosevelt
Has been approved for the Department of Political Science

David H. Bearce, Ph.D. (chair)

Andy Baker, Ph.D.

Sarah Wilson Sokhey, Ph.D.

Adrian J. Shin, Ph.D.

Jeronimo Carballo, Ph.D.

Date_________________

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Exporters and Their Effect on Trade Policy in Democracies and Autocracies
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Abstract

What explains variation in trade policy openness across countries? Past explanations have hinged on individual-level preferences expressed through a voting channel, especially to account for more liberal trade policy in democracies, but recent survey data calls the plausibility of this mechanism into question. In this three-paper dissertation, I focus on firm-level variation in preferences for free trade or protection, rooted in a New New Trade Theory (NNTT) framework. This theoretical response to classic and new trade theories emphasizes the heterogeneity of firms, and particularly the fundamental differences between exporting firms and domestically-oriented or import-competing firms.

Before proceeding with a firm-level explanation for trade policy variation, I argue that, while NNTT makes an important contribution to the study of trade outcomes and policies, its support has been demonstrated mostly in single-country case studies which cannot allow for analysis of ways in which domestic variables such as political institutions, economic development, and geography alter the markets in which firms operate. In a pooled sample of firms from approximately 150 countries, representing great geographic coverage and spanning various levels of political freedom and development, I find quantitative empirical support for NNTT’s global applicability but highlight ways in which its primary firm-level expectations are nuanced by domestic factors.

I then argue, and demonstrate empirically using cross-national and firm-level data, that the variable proportion of exporting firms exerting special interest pressure on policymakers alters the openness or restrictiveness of national trade policy outcomes. Furthermore, democratic and non-democratic leaders implement systematically different configurations of market entry regulations, which alters the ability of productive firms to participate in export markets. This, in turn, shapes the degree of pro-free-trade pressure faced by policymakers. This dissertation contributes to literatures on trade policy preferences and formation, firm-level heterogeneity, business lobbying, and political regimes.
Dedication

To my parents,
And to the memory of my Great Aunt Helen and Great Uncle Joe
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1. INTRODUCTION

1.1 Revisiting Voter-Driven Explanations for Democracies’ Liberal Trade Policy

Democracies have long been understood to be different—broadly, more liberal—in terms of trade policy, an empirical fact which has often been explained through a selectorate theory logic emphasizing the consumerist preferences of voters (e.g. Milner and Kubota 2005, Baker 2003). That is, democratic leaders need to satisfy at least a simple majority of their constituents, and the median voter wants cheaper goods of higher quality with more variety, so they reward political officials whose free trade platforms give them this, and punish those who would drive up prices or reduce variety through protectionist trade policy.

But the functioning of a free-trade-driven voter channel requires that individuals in democracies a) know about economic policy, b) care about economic policy enough to base their vote choice on it, and c) truly do prefer free trade. A growing body of evidence suggests that they rarely do. Instead, they lack the political sophistication to connect policymakers to policies, and policies to their own pocketbook (Mansfield and Mutz 2009), they do not consider trade policy as salient as immigration or security policy (Guisinger 2009), and to the extent that they do care about economic policy, their preference may be weakly for protection, due to a concern over jobs (Bearce and Moya). What, then, makes democracies’ trade policy more liberal?

This dissertation instead leverages vast heterogeneity among businesses, or firms, and the ways they operate in democracies and non-democracies to restore an explanation for the trade policy trends across regime types.

1.2 A Firm-Driven Explanation for Democracies’ Liberal Trade Policy

Where previously economists and political scientists had factored business interests into trade flows and policy as a fairly homogeneous block, scholars of New New Trade Theory
(henceforth NNTT) reported at the turn of the 21st century that firms instead vary tremendously, along a wide array of characteristics including number of employees, industry, number of products or services offered, labor productivity, wages paid, skill intensity, and so forth. One of the most important distinctions among firms was their export orientation, and NNTT economists classified firms’ participation in export markets as a relatively rare activity, limited to large and highly productive firms (Bernard et al 2007, Melitz and Trefler 2012).

Beyond export orientation being associated with different firm-level traits, political economists argued that exporting firms held different preferences on trade than did their domestically-oriented counterparts; namely, they preferred trade openness while import-competers wanted protection (Milner 1989, Plouffe 2017). This challenges the seminal Grossman-Helpman (1994) model of “protection for sale,” wherein voter pressure for freer trade is counterbalanced by some special interest lobbying or campaign contributions from firms demanding protection from cheaper foreign goods – and importantly, if evidence for the voter channel is weak but firms hold non-uniform preferences on trade policy, firm-level politics can perhaps restore an explanation of cross-national variation in policy openness, depending on the proportion of exporters demanding freer trade relative to the import-competing firms demanding protection within a policymaking special interest channel.

But if the characterization of exporting based on the United States—with a mere four percent of firms engaging in exporting—is accurate worldwide, it is unclear how firm preferences could explain considerable variation in policy openness. If that number is representative, special interest channels would everywhere be dominated by a huge majority of protectionist domestically-oriented firms.
My dissertation therefore submits that, while the core assumptions of NNTT have found support in various national samples, these countries have not been representative enough to ensure that NNTT is a globally applicable conceptualization of firms and their behavior; they have also not facilitated enough cross-national comparison and attention to economic and political institutions that alter the arena in which firms make decisions on export market participation. Using a pooled sample of nearly 190,000 firms from 150 countries, so that consistent measurement and operationalization of firm-level traits ensures comparability across an array of domestic contexts, I find that NNTT’s expected relationships between firm characteristics and export orientation generally hold in a broader sample, but that the strength of these relationships is inconsistent across domestic political, economic, or geographical contexts. Most importantly, labor productivity is not a significant predictor of export orientation among firms in non-democratic settings.

Moving forward from this finding, I assess how firm-level lobbying can affect national-level trade policy by pushing it either towards greater openness or towards greater restrictiveness, using a NNTT framework to develop a theory of when exporting versus import-competing firms should be most influential on policymakers and how this translates into policy variation. Finally, I propose that democracies implement entry regulations on domestic and import markets in a systematically different manner from autocracies based on their office retention strategies. This alters productive firms’ ability to sort themselves into export markets, shaping the proportions of exporting versus import-competing firms in the special interest channel, which in turn affects the strength of free trade versus protectionist demands that policymakers face.
Using firm heterogeneity, I therefore account for the greater trade policy openness of democracies without relying on too-strong assumptions of political sophistication and salience of economic policy on the part of individual voters.

1.3 Outline of the Dissertation

This dissertation takes the form of three articles, each of which poses a unique research question, engages with relevant debates in the research program, puts forward a theoretical answer with directional hypotheses, and then empirically tests and analyzes the proposed relationships. Following this introduction, Chapter 2 is the first of these papers, and it addresses the global generalizability of NNTT. Noting that its core assumptions are supported mostly by single-country case studies that overwhelmingly represent economically advanced and politically open regimes prior to the increased economic globalization of the 21st century, I ask whether NNTT’s expectations regarding firm-level traits and export orientation are robust to testing on a broader array of countries. Pooling firms in approximately 150 countries together, it is possible to analyze the effects of both firm-level and national-level characteristics to assess not only whether NNTT provides an accurate picture of firms globally, but also whether domestic economic, geographic, or institutional factors can alter the relationships between firm-level traits and export orientation. Overall, the data suggest that participation in export markets is indeed relatively rare among firms, and that it is generally large, productive, and innovative firms who do participate, but that 1) records of single-digit percentage of exporters based on the United States are not representative of percentages of exporters in other parts of the world, and 2) analyzing country-level variables offers some explanation for why the percentage of exporting firms varies so much across countries.
Stemming from my main Chapter 2 findings, Chapter 3 asks how different distributions of exporting versus import-competing firms applying countervailing special interest pressures can result in the relative openness or restrictiveness of a country’s trade policy. This chapter builds off of the dilemma of using a pro-free-trade voter channel to explain the tendency toward more open trade policies in democracies, if the assumptions underlying the functioning of the voter channel do not hold up. Rather than voters, my argument focuses on firms, and specifically the proportion of exporters within the total population of firms in a country. Using cross-national data, I find support for my theory that trade policy restrictiveness—measured by weighted average tariff rates—should be high when there is a very small proportion of exporting firms and, counter-intuitively, when there is a very high proportion of exporting firms. Tariffs are at their lowest in countries where the special interest channel hosts a moderate proportion of exporting firms. The proposed causal mechanism revolving around firm lobbying is analyzed in and supported by supplemental tests.

Thus far, I have confirmed that NNTT’s assumptions about export orientation and its firm-level determinants are applicable across a variety of domestic contexts, but that the proportion of exporting firms in an economy varies considerably cross-nationally. Additionally, I have shown that political regime alters the relationship between firm productivity and export orientation, and that the percentage of exporting firms in an economy is a predictor of trade policy restrictiveness. In Chapter 4, I argue that democracies implement regulations on firm entry into domestic and export markets in such a manner as to allow more productive firms to sort themselves into export markets, maximizing efficiency gains from trade. This helps democratic leaders retain office, while non-democratic leaders face different incentives, and benefit more from market entry regulations that tend to produce greater proportions of import-
competing firms demanding protectionism. The relationship between political regime and market entry regulations explains why productivity, one of the strongest covariates of export orientation in previous firm-level studies, is a robust predictor of exporting for firms in democracies but not for firms in non-democratic regimes. It also explains how democracies—deliberately or otherwise—create special interest channels that yield a moderate proportion of exporters, providing conditions ripe for trade policy liberalization.

Chapter 5 concludes the dissertation, reviewing the key argument and findings, discussing its contribution to various debates in political science as well as remaining questions for future work.
2. THE POLITICS OF PRODUCTIVITY: TESTING NEW NEW TRADE THEORY ACROSS DOMESTIC CONTEXTS

Abstract. Since its formulation at the turn of the 21st century, New New Trade Theory (NNTT) has given scholars a fuller explanation for various observable facts about international trade flows, with its emphasis on previously-unexplored diversity among firms. Noting that exporting tends to be the domain of large and productive firms who benefit from falling trade costs, it also holds important implications for corporate preferences on trade policy. But so far, the core assumptions of NNTT have largely been tested in single-country case studies which are disproportionately conducted in developed and democratic settings. I argue that an analysis of a pooled sample of firms from a greater range of countries is necessary, in that it allows us to analyze ways in which firms’ export orientation might also systematically be affected by country-level factors, and to ascertain whether the associations between firm-level traits and export orientation demonstrated in specific countries hold up across various domestic contexts. First, I demonstrate that the rarity of exporting—a stylized fact based on United States firm data—has been overstated, and the widespread cross-national variation in levels of exporting activity can be explained by a combination of firm- and country-level characteristics. Overall, I find support for the central claims of NNTT, but my findings also point to a need for greater consideration of the domestic political, economic, and geographic context in which firms operate when analyzing their behavior.

2.1 Introduction

Both classical trade theory and new trade theory “typically assume a representative firm, at least within each industry” (Bernard et al 2007: 108). As a result, scholars of trade policy have in the past largely accepted, per a Grossman-Helpman (1994) style model of “protection for sale”, a paradigm in which firms uniformly impose pressure on the state for protectionist trade policy. They influence policymakers via a special interest channel through lobbying and campaign contributions, and under the representative-firm assumption, “lobbies represent industry interests” wherein the strongest lobbies represent entire industries presumed to be hurt by trade.

This is in contrast to the more recent developments of New New Trade Theory (NNTT), the principal contribution of which is its focus on heterogeneity at the level of the firm. Specifically, firms vary with respect to how many and what kind of employees they hire, and at
what wages, or their sales numbers and costs of labor and inputs, or how many and what types of products or services they market. These traits affect firms’ propensity to engage in international trade, but critically, industries are composed of both exporting and import-competing firms. That is, export orientation shapes what firms want from governments with regard to trade policy, but industry interests are by no means uniform. This suggests that the previous characterization of “representative firms” is misleading, and forces trade policy scholars to revise their understanding of firms exerting special interest pressure, in that a much more fine-grained view of individual firms and their unique characteristics is required.

This paper precedes two others that do precisely that, operating under the NNTT assumption that firms prefer different trade policies based on their export orientation. However, in order to justify that assumption, NNTT and its principal tenets must be demonstrated to be applicable in a broad, cross-national context. Specifically, while considerable evidence has accumulated to suggest that exporting firms are functionally distinct from non-exporting ones, they have also thus far been characterized as being the extreme minority; exporters comprise a small top tier of large, productive, and innovative firms (Bernard et al 2007, Melitz and Trefler 2012). It has become a stylized fact, based off of United States firm-level data, that “engaging in international trade is an exceedingly rare activity…of the 5.5 million firms operating in the United States in 2000, just 4 percent were exporters” (Bernard et al 2007: 105).

While I do not question the accuracy of this statement, it is important to question its generalizability before moving forward with it as a theoretical framework for a cross-national analysis of variation in trade policy. As the oldest continuous democracy and one of the wealthiest and geographically largest countries in the world, the United States represents an anomalous environment in which firms operate and choose to engage in international markets.
That is, there are many reasons why the United States’ 4 percent may be quite low relative to the proportion of exporting firms in other countries. Moreover, while NNTT has found support with regard to exporting being the purview of an upper echelon of large and productive firms in dozens of studies in more than 30 countries, these samples are also mostly restricted to countries at high levels of political freedom and economic development, and very little of the data come from firms operating in the 21st century.

If it is generalizable to less democratic, less developed settings in a 21st century global economy, then NNTT provides an immeasurably useful lens through which to view the politics of trade and trade policy – but it must be subjected to analysis of a larger cross-national sample of firms with a common methodology to enable such generalizations. In this paper, I identify several testable relationships between characteristics of firms and their export activity rooted in a NNTT framework. Acknowledging both contributions and limitations of previous firm-level work, I highlight the need for a systematic analysis of the relationship between firm-level traits and their export orientation in a much broader sample than has been studied so far. Specifically, past firm-level surveys may be outdated given changes to the global economy in recent decades, they have generally focused on single countries using different measurement and modeling strategies, which inhibits cross-country comparison, and there has been a disproportionate focus on economically advanced democracies. By combining World Bank survey data for nearly 190,000 firms in 150 countries between 2002 and 2017, I provide in this paper an analysis of a broader sample of firms, allowing for a discussion of the comparative applicability of NNTT in various national contexts.

Following this introduction, Section 2 discusses the state of firm-level analyses to date, using economists’ debate over the causal direction of the relationship between productivity and
exporting as an example of how inferences may change based on the country sample in which firms are studied. I then discuss the limitations of past firm-level scholarship for drawing global conclusions, and propose an approach with which I hope to reach more generalizable conclusions. I also propose three firm-level hypotheses rooted in NNTT literature that I will test using this larger sample. Section 3 details the data and my empirical strategy, while in Section 4 I present and analyze the statistical results and their substantive effects.

Briefly, I find that while far fewer firms export than those that do not, the 4 percent figure based on the US is quite low compared to my pooled sample, where approximately 16 percent of all sampled firms engage in exporting. Exporting is indeed a rare activity across the universe of firms, but not as rare as has previously been assumed, and across countries there is considerable variation in the scarcity or abundance of exporting firms. Pooled logistic regression using country, year, and sector fixed effects also finds support in a broad sample for NNTT’s expectations that large, productive and innovative firms export. But critically, national-level factors impact firms’ propensity to export as well, and the effects of firm productivity and innovation are not uniform across different domestic contexts, which emphasizes the need for incorporating political context into NNTT-based analyses of how firm heterogeneity affects trade outcomes. Section 5 concludes.

2.2 Firm-level Scholarship: Its Contributions, Weaknesses, and How to Improve It

Over the past two decades, economics and business outlets have published scores of academic studies on the relationship between firm characteristics and exporting behavior, in which scholars have conducted rigorous empirical examinations of firm-level data. On several of these relationships, there is broad consensus, while others enjoy less universal support. One debate centers around whether exporting raises productivity levels through a learning process,
whether higher levels of productivity lead to exporting behavior, or whether there is a feedback cycle, making both scenarios accurate. Map 1, below, indicates the economies in which scholars have conducted such studies, totaling three dozen; I highlight here three major cross-national efforts, in addition to several single-country studies. Reviewing first the debate over productivity and export market participation, and evidence for or against each camp, this section will discuss NNTT’s emphasis on firm-level traits as they relate to exporting activity, then specify three serious—but fixable—issues with the data from which scholars have drawn these conclusions, and finally present my empirical solution.
Figure 2.1. Countries Covered in Previous Analyses of Firm-level Traits and Export Orientation
Economists focusing on the importance of firm heterogeneity and its economic implications have exerted significant effort in analyzing differences in firms’ productivity levels, attempting to ascertain whether an exogenous decision to export can raise labor or factor productivity, or whether the decision to participate in export markets is endogenous to firms’ pre-existing higher levels of productivity. On one hand, by expanding operations to an international arena, firms are exposed to greater competition, and engage more directly with global flows of information and technology, thus helping them to increase productivity levels at a higher rate immediately upon first exposure (Wagner 2005). On the other, export operations often are associated with some degree of costliness which less productive firms are not able to bear. The primary empirical strategy employed here to discern between the two is a longitudinal analysis of manufacturing firms at different stages of their growth, in which economists calculate a productivity differential between exporters and non-exporters prior to export market entry, and then compare rates of productivity growth between recent export market entrants and both non-entrants and older entrants (Bernard and Jensen 1995). Higher rates of growth in the first year post-entry into export markets indicate support for the proposition that firms begin exporting and then increase their productivity, whereas an overall greater productivity differential pre-entry into export markets between firms who begin thereafter to export and those who do not indicates support for self-selection.

Evidence from Canadian manufacturers over a 23-year period spanning the 1970s, 80s, and 90s suggests that firms do learn from participating in export markets, as productivity increases for new entrants to the export market outpace those of older entrants (Baldwin and Gu 2003). However, most other studies of manufacturers in advanced economies fail to replicate this finding, the logic being that the exporter premium in terms of technology and resource
acquisition is not large in the most developed countries. Noting, though, that the World Bank Group has touted an export-driven development strategy such that exposure to international markets can improve the efficiency of manufacturers in less advanced economies, scholars have found stronger evidence in favor of a learning hypothesis in developing countries. Some of the most well-supported cases here include a three to six percent increase in productivity accruing to Indonesian manufacturers after entering the export market (Blalock and Gertler 2004), positive effects of exporting on productivity growth among manufacturers in four Sub-Saharan African economies (Bigsten et al 2000), and a rigorous multi-method re-evaluation of these same four countries plus five others in the region (Van Biesebroeck 2005).

It is important to note that support for the learning hypothesis does not rule out the possibility of finding evidence in favor of firm self-selection into export markets on the basis of pre-existing productivity differentials, and in fact all of the studies mentioned above admit some degree of confirmation for the self-selection hypothesis as well. However, far more commonly in the literature, scholars side unequivocally with the self-selection hypothesis, finding far weaker or no evidence of post-entry learning. Two of the most frequently cited works in the exporter-productivity literature directly test both possibilities, finding no increase in post-entry productivity for manufacturing firms in Germany’s Lower Saxony region (Bernard and Wagner 1997), and finding—in a study of manufacturing industries across Colombia, Mexico, and Morocco—evidence consistent with learning only in two Moroccan industries, which the authors suggest may be a statistical artifact (Clerides, Lach, and Tybout 1998). Based on a survey of the cross-national evidence, and for the sake of methodological simplicity, I proceed by assuming self-selection by firms into export markets on the basis of pre-existing productivity distributions

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1 Cameroon, Ghana, Kenya, and Zimbabwe
2 Burundi, Cote d’Ivoire, Ethiopia, Tanzania, and Zambia
(although note that this does not rule out the possibility of learning; but that mechanism is not relevant to my discussion moving forward).

Despite issues with directionality, what is not disputed here is the robust relationship between firms’ degree of labor productivity and engaging in exporting activity, and scholars have reached a fairly robust consensus on other factors that are associated with participation in export markets: size, more educated labor force, greater innovation, higher wages, better past sales performance, greater skill and capital intensity in production are chief among them (see, for instance, Bernard and Jensen 2004).

If we can extrapolate anything from the debate over the temporal ordering of productivity growth and export market entry, though, it is that the firm-level determinants of export market participation may vary considerably across domestic contexts – or, more precisely, that the threshold for each at which we might expect to see firm selection into export markets may not be constant across all domestic contexts. Looking at the economic, political, and geographic particularities under which firms operate may significantly change our inferences about firm-level traits and their importance for exporting. For NNTT to remain a viable theoretical lens through which to view trade outcomes or trade policy formation, it should hold some generalizability globally, and so must be subjected to tests that consider manufacturers in countries that range from deeply autocratic to highly politically open, from developing or pre-industrial economies to newly industrialized countries to advanced economies, and so forth.

In Figure 2.1, I highlight in a map all single-country case studies of firms in pale green; from the map it is clear that these have taken place in countries with varying geographic location, factor endowments, and levels of development. The majority of these studies conclude that productivity is strongly correlated with activity in export markets, which is in line with the
expectations of NNTT. However, I identify three main problems with the extant evidence, presented in order of increasing severity for our inferences about firm activity and the global applicability of this framework; before using NNTT as a theoretical lens through which to analyze trade policy, it is necessary to demonstrate that similar results obtain in a sample that is not subject to the following concerns.

First, Figure 2.1 indicates some geographic variation in countries where manufacturing firms were sampled, but obvious limitations exist. Evidence from Indonesia and nine Sub-Saharan African economies directly contradicted what past research on firms in developed economies had found—or rather, failed to find—regarding learning by exporting. We may hope that by including most major regions of the world in our data on fewer than one-fifth of its countries, we have obtained a representative sample, telling us something meaningful about how firms behave in land- or labor-abundant economies versus capital-abundant ones, or how firms behave in former colonies versus former colonizers, but the superior option here is simply more data, with greater coverage. Given the focus of past analyses on North America and Western Europe, it would be particularly useful to know whether the stylized facts generated from firms in these countries apply in a larger sample of firms that includes more of Sub-Saharan Africa, the Middle East and North Africa, Central Asia, Central America, Eastern Europe, and Southeast Asia.

Second, of the 41 studies of manufacturing firms I draw on here, which represent coverage of 36 countries, very little of the data can be considered current. While the temporal coverage ranges from 1974 to as recent as 2011, descriptive statistics indicate some areas of concern. The mean year in which firms were analyzed was 1990, with a median of 1991, and a
modal year of 1992. With very few exceptions\(^3\), our findings on exporting and non-exporting manufacturers rely on data that spans no later than the late 1990s but which more often is centered around the mid- to late-80s and early- to mid-90s. It is plausible that the same main relationships between firm characteristics and exporting still hold, but it is likely that fundamental changes to the way firms market themselves, produce, and deliver goods in the 21\(^{st}\) century, the way that consumers buy products, and even the structure of the global economy have had at least some impact on the traits firms must generally possess in order to participate in export markets. A few major trends stand out. Human capital has increased across the globe over the past several decades, driven in large part by a greater percentage of the population in most countries attaining the average level of education (Inclusive Wealth Report 2016), which has, itself, increased in nearly every country (Barro and Lee 2010). The volume of global trade in goods quadrupled between 1990 and 2016. The General Agreement on Tariffs and Trade evolved into the World Trade Organization in 1995; 35 nations have acceded to the organization since (World Trade Organization). Labor migration has more than doubled (World Migration Report 2018). All of these factors, and certainly others not mentioned here, may affect the relationships between firms’ export market participation and the wages they pay, the size and quality of their workforce, the value of their sales, etc. What were previously believed to be robust determinants of export activity, traits that only a small upper echelon of firms possessed, could now be associated with a greater proportion of firms, including non-exporters, or these trends could have served to sharpen the divide between exporters and non-exporters.

Third, and I believe most critically, there is not strong enough evidence that the tenets of NNTT apply at varied levels of political and economic development. Cross-national analyses of

\(^3\)Notably, Plouffe, Naoi, Kuno, and Kume’s online survey of Japanese firms, conducted in 2011.
Sub-Saharan African firms provide a preliminary exploration of what firm heterogeneity and exporting looks like outside of advanced democratic economies, but overwhelmingly, single-country case studies have focused on the wealthiest and most technologically advanced nations in the world. The robust results based on the US, Canada, Mexico, Japan, and Western Europe represent firms in full democracies, and even several of the Sub-Saharan African nations studied are among the region’s only democracies for that time period. Also, with one exception—Estonia in the mid- to late-nineties (Sinani and Hobdari 2010)—all of the single-country case studies of firms take place in countries that fall within the top half of global GDP levels for their respective years; moreover, nearly all are among the top 25 wealthiest nations at the time their firms were observed. Politically exclusive regimes and developing economies may not possess the appropriate institutional infrastructure to incentivize the level of innovation that has characterized exporting firms in our wealthy country sample to date. Countries in early stages of development, which are also the ones furthest from the “world technology frontier,” tend to adopt investment-based strategies for growth, rather than ones that encourage innovation (Acemoglu, Aghion, and Zilibotti 2006: 37). Instead, the innovation-based policies which incentivize firm growth and productivity are seen precisely in states that are more economically advanced – so, the strong relationship between innovation and exporting seen in the NNTT literature to date may be biased by the almost exclusive observation of firms from wealthy countries.

In the concluding remarks of a working paper reviewing firm-level evidence on the relationship between productivity and exporting to date, Wagner (2007: 11) neatly summarizes the main problem plaguing this important research program:

“Obviously the big picture sketched here...hides a lot of cross-country heterogeneity...Cross-country comparisons, and even cross-study comparisons for one
country, are difficult because the studies differ in details of the approach used. Therefore, the jury is still out on many of the issues regarding the relationship between exporting and productivity. One promising approach to generate stylized facts in a more convincing way is to co-ordinate microeconometric studies for many countries ex-ante, and to agree on a common approach and on the specification of the empirical models estimated. The outcome of such a joint effort would be a set of results that could be compared not only qualitatively (i.e. with regard to the signs and the statistical significance of the estimated coefficients) but with a view on the magnitude of the estimated effects, too.”

In this paper, I leverage the cross-national standardization of the firm-level World Bank Enterprise Surveys to provide a first cut at such an undertaking. Based on the NNTT literature, I test three of the most robust relationships between firm-level characteristics and export orientation using a pooled sample and a consistent measurement of the key variables. Figure 2.2, below, shows a map indicating the country coverage of these surveys. It should be immediately apparent that, in addition to being able to produce more general findings by virtue of using a common surveying approach, there is the added benefit of far greater geographic coverage, including more developing countries and more variation in political regimes.
Figure 2.2: Countries Covered in My Analysis of Firm-level Traits and Export Orientation.
NNTT does not require that participating in export markets be a rare activity amongst firms, but does imply that it is. The hypotheses derived from NNTT and tested here, though, focus less on the proportion of exporters to non-exporters globally and more on the firm-level characteristics that make exporting more likely. They are as follows:

\( H1: \) All else equal, larger firms (i.e. those with more employees) should be more likely to export than smaller ones (those with fewer employees).

\( H2: \) All else equal, firms with higher levels of labor productivity should be more likely to export than less productive firms.

\( H3: \) All else equal, firms that innovate more should be more likely to export than those who do not.

It should be noted that these hypotheses do not cover an exhaustive list of the traits expected to correlate with firms’ participation in export markets, but rather the most robust factors with the strongest case for causality. I will analyze several more traits expected to be associated with exporting firms, but the relevance of NNTT as a lens for understanding heterogeneous firms as a political actor in international trade rests primarily on the three relationships above holding in a broad sample.

2.3 Empirics

The World Bank Group has conducted its Enterprise Surveys among firms in approximately 150 countries since 2002, asking batteries of questions on production, sales, and markets, labor force, finance, and innovation. Each country-year in which a survey was conducted produces its own dataset, with each firm comprising a unique observation; however, the coding strategies for most questions varies widely both across countries and over time. I standardized the measurements of several indicators, then compiled the firm-level surveys from 338 country-years, creating a master dataset representing just under 190,000 firms\(^4\); it contains

\[ N = 189,216 \]
both spatial and temporal components but does not lend itself to time series analysis due to the inconsistency with which countries are surveyed and re-surveyed. As such, I control in my models for temporal trends using year fixed effects, but cannot meaningfully analyze the dynamics of the NNTT proposed relationships within firms or countries over time. It is also important to note that, while the questions on which my analysis relies were asked in most countries in most years, there are some country-years in which this was not the case, leading to considerable missingness.

My dependent variable of interest, export orientation, centers around firms’ exporting activity, which I measure dichotomously, where a value of zero represents firms who respond to the question “In [previous fiscal year], what percentage of this establishment’s sales were direct exports?” with zero percent, did not know, or refused to answer, and a value of one represents firms who responded to the same question with any value greater than zero. I

Based on the findings of NNTT in smaller samples to date, my key independent variables capture firms’ size, productivity, labor, import activity, and levels of innovation. Firm size is measured by the variable employees, which is the logged number of permanent full-time employees from the past fiscal year. Firms report their total sales from the past fiscal year in Local Currency Units, which I standardized to United States Dollars using yearly average exchange rate data from OANDA Corporation, generating the variable sales (000s USD). My productivity measure is generated by dividing this converted sales figure by the total number of permanent full-time employees. Firms also report “total annual cost of labor including wages, salaries, bonuses, social security payments” in Local Currency Units, so I standardized these values to United States Dollars using the exchange rate data described above, creating the variable labor cost. By dividing this standardized measure of total labor costs by total number of
employees, I obtained a rough measure of firms’ *average wages* paid to workers, which are expected to correlate positively with exporting activity. I generated the variable *skill ratio*, which captures whether a firm is primarily human capital-intensive or labor-intensive by dividing the number of highly-skilled workers by low-skilled workers.

Regarding exporting firms’ tendency to be involved in larger supply chains leading them to import intermediate inputs, the dichotomous variable *intermediate input importer* yields a value of one if firms respond “Yes” to the question “were any of the material inputs or supplies purchased in [previous fiscal year] imported directly?” and zero for all else. In many rounds of the Enterprise Surveys, firm respondents are given an Innovation Module, asking—among other things—whether they have “introduced new or significantly improved products or services” in the past three years. Here, a response of one indicates that they have, and two indicates that they have not. I reversed the coding so that the “no” response receives a zero, where a score of one for the dichotomous variable *innovation* is assigned to firms who have recently developed or improved upon a product or service.

While the independent variables described here represent the most robust determinants of exporting activity, several other characteristics of firms should be controlled for as well. The variable *years active* represents the number of years between the date the survey was conducted and the date with which the respondent answers the question “In what year did this establishment begin operations?” I control as well for geographic location that might facilitate exporting, including the size of the city in which the firm is located (*city size*), and whether or not it is the nation’s capital (*operates in capital city*). In addition, to control for possible use of industrial policy or central planning to help firms export, the variable *percent state-owned* measures the percentage a firm reports that it “is owned by each of the following: Government/State.” Similarly, the dichotomous measure *working capital financed by state* has a value of one if firms
respond with “2 = state-owned banks or government agency” to the question “Referring to the most recent line of credit or loan, what type of financial institution granted this loan?” or if any non-zero percentage of their working capital from the past fiscal year was financed by the government. In addition to the year fixed effects already discussed, I include country fixed effects and sector fixed effects based on two-digit Standard Industrial Classification codes.

Descriptive statistics on firm-level variables are presented in Table 2.1.

Table 2.1. Descriptive Statistics of Firm-level Data.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export orientation</td>
<td>0.16</td>
<td>0.37</td>
<td>0</td>
<td>1</td>
<td>189,216</td>
</tr>
<tr>
<td>Employees</td>
<td>102.9</td>
<td>531.5</td>
<td>0</td>
<td>96,096</td>
<td>169,804</td>
</tr>
<tr>
<td>Sales (000s USD)</td>
<td>696,059</td>
<td>216,000,000</td>
<td>0</td>
<td>827,000,000</td>
<td>147,384</td>
</tr>
<tr>
<td>Productivity</td>
<td>4.65</td>
<td>1,220.07</td>
<td>0</td>
<td>462,000</td>
<td>145,593</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.40</td>
<td>0.49</td>
<td>0</td>
<td>1</td>
<td>125,499</td>
</tr>
<tr>
<td>Labor cost (000s USD)</td>
<td>6,269.45</td>
<td>305,959.60</td>
<td>0</td>
<td>82,000,000</td>
<td>121,480</td>
</tr>
<tr>
<td>Average wages</td>
<td>87,259</td>
<td>6,938,820</td>
<td>0</td>
<td>2,370,000,000</td>
<td>120,493</td>
</tr>
<tr>
<td>Skill ratio</td>
<td>3.57</td>
<td>10.26</td>
<td>0</td>
<td>1,319</td>
<td>60,535</td>
</tr>
<tr>
<td>Intermediate input importer</td>
<td>0.74</td>
<td>0.44</td>
<td>0</td>
<td>1</td>
<td>183,946</td>
</tr>
<tr>
<td>Percent state-owned</td>
<td>3.04</td>
<td>16.10</td>
<td>0</td>
<td>100</td>
<td>167,741</td>
</tr>
<tr>
<td>Working capital financed by state</td>
<td>0.35</td>
<td>0.48</td>
<td>0</td>
<td>1</td>
<td>49,067</td>
</tr>
<tr>
<td>Operates in capital city</td>
<td>0.34</td>
<td>0.47</td>
<td>0</td>
<td>1</td>
<td>167,885</td>
</tr>
<tr>
<td>Years in operation</td>
<td>24.86</td>
<td>16.14</td>
<td>0</td>
<td>217</td>
<td>147,849</td>
</tr>
</tbody>
</table>

2.4 Analysis

On the whole, participation in export markets is rare. Of the nearly 190,000 firms surveyed in 149 countries between 2002 and 2017, just over 30,000 firms responded with a non-zero percentage of sales accounted for by direct exports. In a nearly global sample, then, barely 16 percent of firms could be classified as exporters – and this may be a high estimate due to the
lower visibility of smaller domestic, and perhaps even informal, firms. The data from the WBES comports with the stylized facts born out of some of NNTT’s founding works: exporters form a relatively small minority.

Still, nearly 16 percent of firms exporting is a far cry from the US’ four percent (Bernard et al 1997). There are a couple of possible reasons for this relatively high figure. First, and most cynically, the samples of firms provided by the World Bank Enterprise Surveys may be wholly unrepresentative of the universe of firms operating with each country, leading to a massive oversampling of larger and more visible firms which are more likely to export. Short of tracking down every registered firm in all surveyed countries, I cannot rule this out entirely, but I do not believe it is the case. Comparing the coverage of the maps shown in Figures 2.1 and 2.1, it is clear that there is very little overlap in the countries where firm activity has been analyzed and in my pooled sample, and even among overlapping countries, not all of the Figure 2.1 cases analyze the full population of firms within the country. However, I have identified four countries in which reports on the full population of businesses operating in the country give us a picture of

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5 Although the WBES does try to obtain as representative a sample as possible within each economy.
the true percentage of exporting firms. Table 2.2 compares the World Bank’s estimates side-by-side with these calculations.

Table 2.2. Percentage of Exporting Firms in WBES Sample versus Full Population of Firms in Country

<table>
<thead>
<tr>
<th>Country</th>
<th>World Bank Enterprise Surveys</th>
<th>Full Population of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>21.04</td>
<td>20.6</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>7.30</td>
<td>4.6</td>
</tr>
<tr>
<td>Malaysia</td>
<td>42.52</td>
<td>47</td>
</tr>
<tr>
<td>Spain</td>
<td>20.8</td>
<td>21</td>
</tr>
</tbody>
</table>

Offering coverage of firms in four distinct regions, these studies of the full population of firms find 20.6 percent of Chilean firms exporting between 1990 and 1996 (Alvarez and Lopez 2005), an average of 4.6 percent in Ethiopia between 1996 and 2005 (Bigsten and Gebreeyesus 2012), 47 percent in Malaysia in 1998 (Dwor-Frécaut, Colaço, and Hallward-Friemeier 2000), and 21 percent in Spain between 2001 and 2011 (Correa-López and Doménech 2012). These map on relatively well to the World Bank Enterprise Survey’s proportions of about 21 percent in Chile, 7.3 percent in Ethiopia, 42.5 in Malaysia, and 20.8 in Spain, closely enough to argue that the World Bank samples are fairly representative of the true proportion of exporting firms. It is worth noting as well that although the estimates are far closer for Spain and Chile than for Ethiopia and Malaysia, the Enterprise Survey’s estimate for Ethiopia is high while its estimate for Malaysia is low. This should mitigate the concern that the World Bank oversamples large exporting firms.

More likely, it may be the case that exporting is universally the purview of large, productive, and innovative firms, but that the threshold for what constitutes large, productive, or innovative enough is not as high elsewhere as it is in the United States. Several characteristics about the United States market may make it an atypical case for analyzing export behavior, including the magnitude of domestic demand, its geographic size, and its national borders.
Because Americans consumption is so high relative to the rest of the world, huge domestic demand may mean that firms have less of an incentive to operate internationally: if it is more expensive to do so than to remain principally in domestic operation, and the domestic market is large enough to ensure sufficient sales, why export? Similarly, the United States’ vast interior means that goods can travel a great distance from their city of origin and remain domestic goods, whereas goods in the much smaller countries of Western Europe, Southeast Asia, etc., cannot. Finally, the United States has consistently been one of the largest, if not the largest, economy in the world for decades, and it borders only two countries, both of which obviously have smaller economies. In comparison to the United States, countries like Belgium, which are geographically small and bordered by several larger economies, may see considerably more than four percent of firms engaging in international trade⁶.

Alternatively, it is possible that the firm-level characteristics that correlate with exporting in the United States and other developed democracies do not correlate with exporting in a larger, more diverse sample, and this is chiefly why a global test of NNTT is so necessary. Table 2.2 presents a series of bivariate logistic regressions using the pooled sample of firms, where the dependent variable is always the dichotomous export orientation, and country-level, temporal, and sectoral differences are accounted for through fixed effects. Due to the inconsistent missingness of data across my variables of interest, including them all in a multivariate regression artificially truncates the number of observations analyzed, so these bivariate regressions also serve to show broadly the relationships between each variable and export orientation using the full sample of each variable.

<table>
<thead>
<tr>
<th>DV: export orientation</th>
<th>1.1</th>
<th>1.2</th>
<th>1.3</th>
<th>1.4</th>
<th>1.5</th>
<th>1.6</th>
<th>1.7</th>
<th>1.8</th>
<th>1.9</th>
<th>1.10</th>
<th>1.11</th>
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</thead>
<tbody>
<tr>
<td>Employees (logged)</td>
<td>0.610***</td>
<td></td>
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<td></td>
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<tr>
<td>(logged)</td>
<td>(0.006)</td>
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<tr>
<td>Productivity</td>
<td></td>
<td>0.204***</td>
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<td>(logged)</td>
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<td>(0.005)</td>
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<tr>
<td>Innovation</td>
<td></td>
<td></td>
<td>0.629***</td>
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<td>(0.017)</td>
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<tr>
<td>Average wages</td>
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<td>0.102***</td>
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<td>(logged)</td>
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<td>(0.007)</td>
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<tr>
<td>Skill ratio</td>
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<td></td>
<td></td>
<td></td>
<td>0.090***</td>
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<tr>
<td>Intermediate input</td>
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<td></td>
<td>0.998***</td>
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<tr>
<td>importer</td>
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<td>(0.020)</td>
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<tr>
<td>Percent state-</td>
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<td></td>
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<td>Working capital</td>
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<td></td>
<td>0.238***</td>
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<tr>
<td>financed by state</td>
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<td></td>
<td></td>
<td>(0.051)</td>
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<td>City size (largest</td>
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<td>-0.070***</td>
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<td>to smallest)</td>
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<td></td>
<td>(0.007)</td>
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<tr>
<td>Operates in</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>0.238***</td>
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</tr>
<tr>
<td>capital city</td>
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<td></td>
<td></td>
<td></td>
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<td>(0.018)</td>
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<tr>
<td>Years in operation</td>
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<td></td>
<td></td>
<td></td>
<td>0.0145***</td>
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<td>(0.0004)</td>
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</tr>
<tr>
<td>Constant</td>
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<td>-2.030***</td>
<td>-1.980***</td>
<td>-1.831***</td>
<td>-0.914***</td>
<td>-0.950***</td>
<td>-0.491***</td>
<td>-2.821***</td>
<td>-0.693***</td>
<td>-0.937***</td>
<td>-0.634***</td>
</tr>
<tr>
<td></td>
<td>(0.164)</td>
<td>(0.170)</td>
<td>(0.209)</td>
<td>(0.242)</td>
<td>(0.281)</td>
<td>(0.157)</td>
<td>(0.154)</td>
<td>(1.232)</td>
<td>(0.159)</td>
<td>(0.155)</td>
<td>(0.165)</td>
</tr>
<tr>
<td>N</td>
<td>146,249</td>
<td>125,132</td>
<td>110,362</td>
<td>105,312</td>
<td>52,739</td>
<td>142,720</td>
<td>144,877</td>
<td>41,598</td>
<td>122,901</td>
<td>144,129</td>
<td>126,884</td>
</tr>
<tr>
<td>R²</td>
<td>0.24</td>
<td>0.16</td>
<td>0.15</td>
<td>0.16</td>
<td>0.12</td>
<td>0.17</td>
<td>0.15</td>
<td>0.17</td>
<td>0.15</td>
<td>0.14</td>
<td>0.15</td>
</tr>
</tbody>
</table>

Bivariate logistic regressions using country, year, and sector fixed effects. Note: *** p < 0.01
Consistent with past firm-level studies, I find positive associations between the size of the firm as measured by personnel, its level of labor productivity, its innovativeness, the skill level of its employees, and importing intermediate inputs and its propensity to export. Also according to the bivariate regressions in Table 2.2, some geographic and political factors are relevant to firms’ export activity. The city size variable is an ordinal one with scores as follows: 1 = capital city; 2 = city with population over one million (non-capital); 3 = population of 500,000 to one million; 4 = population of 50,000 to 500,000; 5 = population less than 50,000. Model 1.9 suggests that operating in the capital or in more populated cities is associated with a higher likelihood of exporting, and a strong relationship holds for the dichotomous measure of capital city indicated in Model 1.10 as well. Since the variance explained by the more nuanced measure of city size (in the presence of fixed effects controlling for spatial, temporal, and sectoral differences) is greater than that explained by the dichotomous capital city measure, it is the one I include in multivariate regressions. Additionally, Model 1.7 shows no significantly increased likelihood of exporting associated with a greater percentage of the firm owned by the state; it may be the case in various contexts that the state either has a stake in less competitive industries, or that its support pushes firms into international markets, so it is plausible that we would see no clear relationship in a large pooled sample. However, firms who have working capital borrowed from the state are significantly more likely to export than those who borrow from other sources or have no loans, so I control for this in multivariate regressions.

In Table 2.4 I run multivariate logistic regressions with country, year, and sector fixed effects for 45 sectors specified by the World Bank surveys to reduce the omitted variable bias inherent in bivariate regressions. Model 2.1 shows the fullest specification, run on the pooled sample of firms, and Models 2.2 and 2.3 include skill ratio and working capital financed by state,
respectively, as these are useful in explaining export orientation but severely limit the number of observations included in the model.

<table>
<thead>
<tr>
<th>Table 2.4. Firm-level Determinants of Export Orientation</th>
<th>2.1</th>
<th>2.2</th>
<th>2.3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DV: export orientation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees (logged)</td>
<td>0.563***</td>
<td>0.683***</td>
<td>0.474***</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.013)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Productivity</td>
<td>0.195***</td>
<td>0.258***</td>
<td>0.268***</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.013)</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.414***</td>
<td>0.398***</td>
<td>0.449***</td>
</tr>
<tr>
<td></td>
<td>(0.023)</td>
<td>(0.034)</td>
<td>(0.044)</td>
</tr>
<tr>
<td>Skill ratio</td>
<td>-0.001</td>
<td></td>
<td>(0.001)</td>
</tr>
<tr>
<td>Working capital financed by state</td>
<td></td>
<td>-0.138*</td>
<td>(0.078)</td>
</tr>
<tr>
<td>City size (largest to smallest)</td>
<td>-0.062***</td>
<td>-0.036**</td>
<td>-0.138***</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.015)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Years in operation</td>
<td>-0.00003</td>
<td>0.0012</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>(0.0007)</td>
<td>(0.0009)</td>
<td>(0.0012)</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.24***</td>
<td>-8.275***</td>
<td>-4.829***</td>
</tr>
<tr>
<td></td>
<td>(0.38)</td>
<td>(1.080)</td>
<td>(1.362)</td>
</tr>
<tr>
<td>N</td>
<td>71,477</td>
<td>27,383</td>
<td>16,710</td>
</tr>
<tr>
<td>R²</td>
<td>0.24</td>
<td>0.25</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Logistic regression using country, year, and sector fixed effects, SEs clustered by country
Note: *p < 0.1; ** p < 0.05; *** p < 0.01

In the pooled sample used for Models 2.1, 2.2, and 2.3, there is consistently strong support for all three hypotheses; namely, that larger, more productive, and more innovative firms are more likely to export. For instance, a one standard deviation increase in logged number of employees makes firms 13 percent more likely to export, and firms that have introduced a new or improved product or service to the market are approximately ten percent more likely to
participate in export markets than their non-innovating counterparts. Additionally, operating in larger cities and in the capital makes exporting significantly more likely.

As mentioned above, there are theoretical reasons to believe that the relationship between these firm-level traits and firms’ participation in export markets may not be constant across countries, which argues for pooled models that still account for some cross-national variation. To be clear, the models above constitute strong support for NNTT’s global generalizability with regard to firm-level traits and export orientation. But taking country-level factors into account may explain why the percent of exporting firms varies so widely across countries, and may reveal more nuanced relationships between firm-level traits and export orientation. In sections 1 and 2, I highlighted political, economic, and geographic factors that might have made the United States and past country case studies not fully representative of much of the rest of the world. In Model 3, I add these country-level variables to the firm-level determinants of export orientation in a mixed effects multilevel logistic regression shown in Table 2.5.
Table 2.5. Multi-level Determinants of Export Orientation

<table>
<thead>
<tr>
<th>Model 3 DV: Export orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firm-level predictors</strong></td>
</tr>
</tbody>
</table>
| Employees (logged)             | 0.543 (0.036) ***  
| Productivity (logged)          | 0.240 (0.024) ***  
| Innovation                    | 0.386 (0.038) ***  
| City size (large to small)     | -0.056 (0.022) **  
| Years in operation             | 0.001 (0.002)  
| **Country-level predictors**   |  
| Number of bordering countries  | 0.131 (0.043) ***  
| Geographic area (sq. km., logged) | -0.189 (0.083) **  
| Political regime               | 0.464 (0.297)  
| GDP (billions USD)             | -0.0006 (0.0002)***  
| GDP per capita, logged         | -0.0754 (0.176)  
| Constant                       | -3.679 (1.821)  
| **Variance components**        |  
| Var(constant)                  | 3.565 (0.868)  
| Var(productivity)              | 0.028 (0.008)  
| Cov(productivity, cons)        | -0.298 (0.081)  

| N                              | 67,715  
| Number of countries            | 83  

Multilevel mixed effects logistic regression

Note: *p < 0.1; ** p < 0.05; *** p < 0.01
Both geographic country-level variables pick up significance, with each additional bordering country making firms approximately three times more likely to export, and with firms in geographically larger countries participating in export markets at a lower rate. Gross Domestic Product, capturing size of the domestic market, also has a statistically significant relationship with firms’ propensity to export. These level-two results give some indication for why the United States would be more of a lower bound than a representation of the average percentage of exporting firms in other countries. With only two bordering countries, and on the high end of the global ranges of GDP and geographic size, the United States has a huge domestic market and limited nearby foreign markets, so a greater proportion of firms are domestically-oriented. Exporting firms in the United States may have the same traits—high productivity, high employment, etc.—as exporting firms in other countries, lending generalizability to NNTT assumptions, but we should be cautious before attempting to generalize the four percent figure to other domestic contexts.

In addition, it is possible that these country-level variables may condition the effect of firm-level variables on export orientation. For ease of interpretation, I split the sample of firms in two ways: between firms in developed economies and those in developing economies, and between firms in democracies and firms in non-democracies. The statistical results are presented in Table 2.6, but I focus here on the substantive effects of productivity and innovation across domestic settings.
Table 2.6. Effects of Firm-level Traits in Various Domestic Settings

<table>
<thead>
<tr>
<th>DV: export orientation</th>
<th>A1.1 Democraclies</th>
<th>A1.2 Non-democracies</th>
<th>A1.3 Developed economies</th>
<th>A1.4 Developing economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees (logged)</td>
<td>0.535*** (0.032)</td>
<td>0.619*** (0.081)</td>
<td>0.511*** (0.068)</td>
<td>0.566*** (0.035)</td>
</tr>
<tr>
<td>Productivity</td>
<td>0.275** (0.0)</td>
<td>0.077 (0.086)</td>
<td>0.179*** (0.026)</td>
<td>0.206*** (0.069)</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.452*** (0.046)</td>
<td>0.321*** (0.071)</td>
<td>0.610*** (0.131)</td>
<td>0.387*** (0.038)</td>
</tr>
<tr>
<td>City size (large to small)</td>
<td>-0.071*** (0.026)</td>
<td>-0.043 (0.038)</td>
<td>-0.060 (0.047)</td>
<td>-0.057** (0.024)</td>
</tr>
<tr>
<td>Years in operation</td>
<td>0.002 (0.002)</td>
<td>-0.005* (0.003)</td>
<td>-0.001 (0.003)</td>
<td>-0.0001 (0.002)</td>
</tr>
<tr>
<td>Constant</td>
<td>-7.09*** (0.75)</td>
<td>-3.74*** (0.50)</td>
<td>-5.966*** (0.515)</td>
<td>-5.58*** (1.10)</td>
</tr>
</tbody>
</table>

Logistic regression using country, year, and sector fixed effects, SEs clustered by country
Note: *p < 0.1; ** p < 0.05; *** p < 0.01

First, consistent with Acemoglu, Aghion, and Zilibotti (2006), the relationship between innovating and exporting is subject to change based on the domestic economic context in which firms operate. Splitting firms between those in developed economies and those in developing economies, size, productivity, and innovativeness are all significant predictors of export orientation, in line with the expectations of NNTT. However, while NNTT is an accurate framework, these results indicate that it does not necessarily apply in the same ways under different political institutions or levels of economic development. Figures 2.4.1 and 2.4.2 show two statistically significant, positive relationships between innovation and exporting, but of different magnitudes. Although innovating still significantly increases the likelihood of a firm
exporting in developing countries, the relationship between innovating and exporting is not nearly as strong in settings further from the world technology frontier.
Between firms in democracies and non-democracies, the differential effect of firm-level traits across domestic contexts is even more stark: a logged unit increase in labor productivity makes firms in democracies, on average, about seven percent more likely to export. In non-democratic settings, though, there is no statistically significant relationship between labor productivity and exporting. Looking more closely at the substantive effects predicted by these two models, Figures 2.5.1 and 2.5.2 show average marginal effects of productivity on the likelihood of exporting in democracies and non-democracies, respectively. The steep nonlinear slope in the figure for democracies is what was expected by the NNTT literature based on case studies looking at firms within a single country, many of which were advanced democracies. When considering a pooled sample of firms in non-democratic countries, it is not the case that the most productive export.

2.5 Conclusion

New New Trade Theory (NNTT) has prompted a reconsideration of economic analysis of trade flows in the past two decades, based on the related insights that exporting is a rare activity for firms to undertake, and that certain traits that vary widely across the population of firms are strong predictors for which will undertake this uncommon enterprise. For political scientists, this
new theoretical framework has strong implications for our theories of trade policy formation and economic outcomes as well – if the framework is applicable in a variety of domestic contexts.

This paper has demonstrated that, while the development of NNTT has ushered in an important new conceptualization of the firm as an economic actor with distinct preferences based on heterogeneous characteristics, scholars have mostly sought support for the theoretical framework in a small, outdated sample of countries that disproportionately favors the economically and politically developed. Moreover, the majority of these studies have been contained to single countries using non-comparable methods. Having demonstrated the need for a set of generalizable results across a wider array of domestic contexts, I standardized firm-level data from the World Bank covering nearly 190,000 firms in over 300 country-years, spanning 150 countries between 2002 and 2017. I ran pooled logistic regression with country, year, and sector fixed effects, and found that, in line with the early NNTT literature, firm size, productivity, and innovativeness are strong overall predictors of its export orientation.

However, domestic context plays an important role in the strength of these relationships. Innovation is a weaker predictor of export orientation for firms in developing economies, which tend to be further from the cutting edge of technological developments. Most importantly, when considering firms across different political regimes, labor productivity—one of the most theorized-about indicators of export orientation—is only a statistically significant predictor of exporting in democracies. While generally finding that NNTT is a relevant and extremely impactful theoretical framework with which to analyze trade politics, this points to a major need for more inclusion of political institutional variables when incorporating firm heterogeneity into models of trade policy and outcomes. What is it about non-democracies that yields the
insignificant relationship between productivity and exporting – what factors either suppress the most productive firms from exporting or allow less productive firms to export?

In short, NNTT’s insight that firms vary along a number of characteristics, and that these characteristics systematically explain export orientation, is an important one for political economy, as this provides information both on the behavior and on the preferences of firms as political agents. However, it was not clear from previous case studies that these results held up in a pooled sample of firms across different domestic contexts. This paper has indicated that they generally do, but that domestic factors have a major influence on these relationships, which argues for greater incorporation of political variables in the analysis of firm behavior and preferences.
Abstract. Just as societal trade policy preferences are divided among winners and losers from openness, firms hold disparate preferences for protection or free trade based on whether or not they are globally competitive. With recent evidence calling into question the plausibility of a voter-driven account of trade policy variation, firm heterogeneity represents an alternate explanation for variation in trade policy openness cross-nationally, with exporters broadly preferring freer trade and import-competing firms demanding protection. Although New New Trade Theory has used the US case to characterize exporting as extremely rare, I find in a sample of nearly 190,000 firms from 150 countries that, while the proportion of exporting firms worldwide is only about 16 percent of all firms sampled, the proportion of exporting firms within countries ranges from less than one percent to over 60. I argue that the percent of exporting firms in the market determines whether they get their preferred policies. I hypothesize a nonlinear relationship wherein protectionism is highest when there are either very few exporting firms or very many: in the first case, protectionist voices dominate the special interest channel and in the second, current participants in export markets resist competition borne out of falling trade costs. I find support for the expected relationship and proposed causal mechanism through firm-level models of lobbying behavior and cross-national models explaining the effect of exporter percentages on three measures of trade policy openness.

3.1 Introduction: What Drives Democratic Trade Policy Openness?

The domestic determinants of trade policy configurations hold a spot at the center of one of political economy’s oldest debates, with its classic models stemming from early 19th century economic thought. These workhorse models of trade policy preferences focus on societal cleavages, suggesting that policy is shaped by a knowledgeable and interested electorate holding competing preferences. Yet increasingly, survey work in political economy indicates that in democracies, where we would expect the electoral punishment of unfavorable trade policy to be the most direct, voters neither know nor care enough to hold policymakers accountable. How, then, can we explain variation in trade policy openness or restrictiveness across countries and over time? This paper posits that trade policy is predominantly shaped by special interest pressures in both democracies and non-democratic regimes, and that competing policy
preferences held by firms, and the relative size of protectionist versus free trade camps in the special interest channel, account for policy variation.

Noting considerable variation in the openness of trade policy cross-nationally and over time, a large literature in the politics of international trade reports that democracies implement systematically more liberal policy, especially in the forms of reduce tariffs on imported goods and cooperation in international organizations (e.g. Milner and Kubota 2005; Mansfield, Milner, and Rosendorff 2002). Traditionally, scholars have ascribed these differences to the presence of a voting constituency in democracies, which prefers free trade due to the average consumer’s love of variety, quality, and lower prices (e.g. Milner and Kubota 2005; Baker 2003). In the seminal Grossman-Helpman (1994) model of economic policy pressures, there are two channels through which subnational actors exert influence on the state to implement their preferred policies: individuals use their electoral sway to demand freer trade from their representatives, while firms operate through a special interest channel to lobby for protection from outside competition. Critically, this model assumes that the special interest channel universally seeks protectionism, contravening voter pressures for a more open market (Grossman and Helpman 1994; Gawande and Hoekman 2006). The implication is that the special interest channel remains present in non-democracies and, absent the pro-free-trade voting channel, succeeds in its quest for more trade protection. While the Grossman-Helpman model of countervailing policy demands from voters and firms has had a well-deserved and undeniably large impact on political economists’ understanding of trade policy formation in democracies, several pieces of later scholarship must call its accuracy into question.

First, subsequent work adapts the framework to less democratic states (i.e. ones in which the voter channel is either not present or can be effectively disregarded by the government),
finding similar results to Grossman and Helpman’s original test. As Turkey transitioned from a dictatorship in the 1980s to a democracy in the 1990s, for example, the government accorded primacy to maximizing social welfare over maximizing special interest contributions\(^7\) (Mitra et al. 2002). These findings indicate a similar process through which the state aggregates subnational trade policy preferences \textit{regardless} of regime type.

Second, it is not at all clear that voters in democratic settings have the ability or willingness to reward or punish their representatives on the basis of economic policy platforms. Individuals may fail to accurately connect politicians to policies, or an economic policy to the outcome it would have on their pocketbook; even if they have the political sophistication to do so, voters rarely prioritize trade policy over other policy issues like national security or border control (Mansfield and Mutz 2009; Guisinger 2009).

In short, if the findings from Turkey are generalizable, non-democratic leaders must be assumed both benevolent and well-informed on policy configurations that maximize social welfare. In democracies, on the other hand, the burden of being well-informed on and interested in “good” policy configurations falls on the voters. Neither of these scenarios is probable. How, then, can we account for systematic cross-national differences in trade policy openness?

In this paper I propose an explanation for trade policy variation rooted in the vast heterogeneity among firms in the special interest channel – that is, firms hold systematically different preferences on trade policy configurations, and predictably succeed or fail at lobbying the government to see these policies enacted. In Section 2, following this introduction, I discuss the evolution of firms as political actors in the trade policy literature and develop a theoretical framework for firm lobbying and its efficacy in different domestic contexts. I also present firm-

\(^7\) Although the government’s attention to social welfare did appear slightly higher under a democratic regime.
level and cross-national hypotheses consistent with my theory. Section 3 introduces my data and methodological approach, as well as presenting and analyzing empirical results. Section 4 concludes.

3.2 Theory

3.2.1 Heterogeneous Production, Heterogeneous Preferences

Both classical trade theory and new trade theory “typically assume a representative firm, at least within each industry” (Bernard et al 2007: 108). By contrast, the later developments of New New Trade Theory (NNTT) posit that firms vary along such lines as productivity, skill or capital intensity, size, and innovation, all of which are traits that are expected to influence the firm’s decision to engage in international markets. Specifically, larger and more productive firms tend to have higher profits and can bear the costs of exporting, while less productively efficient firms are forced to compete with foreign imports in the domestic market (Melitz and Trefler 2012).

Although it is not identified as such\(^8\), important past scholarship falls in line with some of the central tenets of NNTT, arguing that firm behavior and preferences are \textit{not} uniform, and that internationally-oriented firms in particular should oppose closed markets. This flies in the face not only of the Grossman-Helpman model, but of the previous longstanding assumption in political economy work of a “representative firm”, wherein a business in any given sector was viewed as functionally equivalent to all others, engaging in the same behaviors and holding the same preferences (Bernard et al 2007: 105).

\(^8\) And in some cases, predates the elucidation of NNTT entirely
Toward the end of identifying firm pressures against policy restrictiveness, there is some empirical confirmation that lobbying behavior by firms can in fact support trade policy liberalization. Milner’s (1988, 1989) work paved the way for viewing firms as trade liberalizing engines, demonstrating that American firms with multinational operations developed anti-protectionist sentiments in the wake of increasingly global intra-firm trade, and that American trade policy turned away from protectionism in response. Since then, scholars have elaborated on the process through which anti-protectionist firms can affect trade policy. The literature has looked not only at campaign contributions made by firms (e.g. Brasher and Lowery 2006) but at ways businesses can take political stances, even actively lobbying the government for non-protectionist policies (Plouffe 2017; Drope and Hansen 2006). Works such as these have established a trend in which firms engaging in more international markets prefer more open trade policy, and petition the government to enact it, while the smaller and less productive import-competing firms seek protection against cheaper foreign goods.

However, it remains unclear that firm special interest pressures for or against trade policy liberalization hold any explanatory power over observed variation in trade policy; key works in NNNTT characterize participation in export markets as exceedingly rare, implying that the voice for trade openness in most domestic contexts is small relative to demand for protection from the much larger group of domestically-oriented firms. It is important to note, though, that this stylized fact concerning the rarity of exporting comes from analysis of US firms, and that the context in which these firms operate may not be comparable in other countries. For one, the United States is geographically large, with a huge domestic market. Firms may produce goods 2,500 miles from where they are ultimately consumed and still be producing for a domestic market, while smaller countries might have neither the geographic reach nor the domestic market
size to do the same. It is plausible, therefore, that firms with similar characteristics could be domestic firms (or import-competitors) in the United States or exporters in a smaller country, meaning that using the US case to state generally that exporting is rare may not be valid.

Another way of thinking of this is to look at the traits that characterize exporting firms, according to NTT literature – they tend to be the largest, most innovative, and highly productive firms (Melitz and Trefler 2012). However, that threshold for what makes a firm large enough or productive enough to export varies widely from country to country, based on innumerable institutional factors including market entry costs or hiring procedures, as well as geographic ones such as square mileage, number of land borders, or island status. Slovenia, for instance—one of Europe’s smallest countries bordered by four large economies—regularly sees over 50 percent of sampled firms exporting, more than 2.5 standard deviations above the mean. This does not mean that half of all Slovenian firms are as productive as the top 4 percent of American firms, but suggests instead that some domestic qualities of the Slovenian economy lend themselves to a lower threshold at which firms find exporting profitable.

In fact, cross-national data lend credence to the argument that the percentage of exporters in the United States is not globally generalizable. Using a sample of approximately 190,000 firms sampled across 150 countries (317 country-years between 2002 and 2017), Figure 3.1 indicates that, on the whole, exporting is relatively rare: only about 30,000 out of 190,000 sampled firms—approximately 16 percent—are active in export markets, while the remaining 84 produce only for domestic markets. However, there is significant variation within countries as to the proportion of exporting firms. The histogram in Figure 3.2 depicts the variation in the percent of exporting firms across countries. While many country-years are clustered around the 16 percent level indicated in the pooled sample, there is widespread cross-national variation in the
percent of that export to international markets, ranging from less than one percent\(^9\) to over 50 percent\(^{10}\).

In some countries, then, there are very few exporting firms, while in others there are far more. This variation presumably also changes the composition of trade policy demands in the special interest channel across countries, making protectionist pressure stronger in some countries (with a low percent of exporting firms) and liberalizing pressure stronger in others (with a higher percent of exporting firms). The crux of my argument in this paper is that the percent of exporting firms is a strong determinant of trade policy openness across countries and over time, but this requires a deeper understanding of how firms act in the special interest channel to achieve their preferred policy outcomes. A large body of research examines how firms lobby, which firms are more likely to do so, and which feel most effective in so doing, all of which are factors relevant to my theory.

\(^9\)Timor-Leste in 2009, Tajikistan in 2003
\(^{10}\)Botswana in 2006, Slovenia in multiple years, Sweden in 2014
3.2.2 Who Lobbies, How, and to What End?

Insofar as firms lobby policymakers for their preferred policies, we might think of internationally-oriented firms organizing to lobby for freer trade very broadly, and import-competing firms coordinating to demand protection to remain competitive against cheaper or higher-quality foreign imports. This is an overly simplified view of lobbying, though, as firms more frequently lobby for what can to some degree be considered private goods, rather than the collective good of “free trade” writ large. Instead, firm lobbying often takes the shape of demands for goods that are technically non-excludable and non-rivalrous, but which benefit the lobbying firm specifically, and which are not relevant or helpful to other firms (Godwin, Ainsworth, and Godwin 2012). For instance, many firms import intermediate inputs to the final good which they produce for the market. An exporting beer manufacturer may import malted barley or a specific type of hops, so they might lobby their home government to reduce tariffs on these inputs. If they are successful, trade becomes marginally freer and all other firms are welcome to benefit from these reduced prices on foreign barley and hops, but most other firms—possibly even those within the same industry—would not need these inputs for their finished product, and so would be largely unaffected by this lobbying activity. Each instance of successful firm lobbying, therefore, produces incremental and very nuanced policy change, rather than sweeping liberalization or protectionism.

Consistent with NNTT, we also know that firms are not universally inclined to lobby policymakers, and that firm-level traits correlate with the decision to participate actively in the political arena. While small business owners across different national contexts may be more politically active than medium and large business-owning counterparts (Schaffer, Sokhey, and
Yildirim 2017), firms with international ties and with higher levels of productivity tend to be the most active in lobbying politicians on trade policy (Milner 1989; Plouffe 2017).

But when it comes to firm lobbying, activity does not necessarily mean influence. In a comprehensive cross-national survey of firms, one study finds that larger firms and firms with structural ties to government (i.e. partially state-owned firms who have government officials in their management structure) tend to feel most strongly that they have a decisive impact on government policies that affect their operations (Chong and Gradstein 2010). These results are consistent across 68 countries under different political and economic institutions, with the major caveat that firms’ perception of the strength of these institutions is also positively correlated with their feelings of efficacy. While they do find that larger firms feel significantly more effective than smaller firms, there is no similar consistent result for exporting firms feeling more effective in lobbying than non-exporters.

Firms lobby government for trade policy openness or restrictiveness on very specific dimensions, and the extent to which exporters feel effective in so doing is variable. I posit that this is because lobbying firms—whether exporters or import-competers—feel that their influence is either heightened or diminished by the composition of the special interest channel: that is, by whether they are lobbying in an arena with low, medium, or high percentages of exporting firms. The variation in who lobbies, and how effective they feel in doing so, corresponds to broader trade policy outcomes based on a holistic view of all firm lobbying.

3.2.3 Expected Policy Outcomes at Different Levels of Percent Exporting Firms

While 16 percent of a global sample of firms exports, as demonstrated above, some countries have special interest channels with a far lower percentage of exporting firms and others face a far higher percentage. The percentage of exporting firms within each economy shapes the
special interest pressure that policymakers face, whether for protection or free trade. I quantify what I consider to be “low”, “medium”, and “high” percentages of exporters in Section 3, but for now speak generally about relative distributions of exporters and import-competitors within an economy.

In countries with a below-average percentage of exporting firms, the vast majority of the voices in the special interest channel are domestic firms, who likely face competition from imported goods. The greater their degree of import competition, the more forcefully these firms should demand protection. Less globally competitive, concentrated industries have also been shown to form more politically active associations to overcome the collective action problem, thus increasing their influence over policymakers despite their relative economic weakness (Drope and Hansen 2009). The high efficacy of import-competitors in a special interest channel dominated by them would account for the inconsistency with which Chong and Gradstein (2010) find statistical significance for exporters’ perceived influence on trade policy.

In countries with a medium percentage of exporting firms, though, exporters should have greater lobbying influence. Moreover, they should be joined in demanding lower trade barriers by firms who are presently producing for the domestic market, but whose productivity could be raised enough by lowered costs of production that they could feasibly become exporters.

In countries with a high percentage of exporting firms, I argue that exporters remain influential, as they dominate the special interest channel, but begin to hold different preferences. Because at present they can bear the status quo costs of exporting, they stand to lose more than gain from additional reductions in trade costs: they might be able to produce more efficiently still, but so might many potential competitors who are currently only able to produce for the domestic market. A study of Spanish firms reacting to EU tariffs indicates that “small firms are
largely sensitive to tariffs while it is not significant for the largest firms” (Dovis and Milgram-Baleix 2009: 592). While lower tariffs would have allowed more entrants into export markets, higher tariffs block the highly sensitive potential entrants while not having a strong effect on the productive capacity of current exporters\(^\text{11}\). In these contexts, when exporters have the clout to demand the status quo or heightened protection, thus blocking domestic firms from entering export markets, domestic firms on the cusp of exporting should feel the least influential on trade policy.

If these conditions hold, we can expect a systematic relationship between the percent of exporting firms in a country and its overall trade policy openness or restrictiveness. Where there are more import-competing firms effectively lobbying for protection, we should see high overall trade barriers. With a great many import-competing firms representing several sectors and hundreds of highly differentiated products, their specific demands for protection within their markets should result in very restrictive trade policy. While the few exporting firms may also successfully demand openness in their particular markets, the magnitude of these demands is outweighed by those from the import-competing firms, and so would not appreciably lower the average tariff rate or raise broader trade freedom indicators.

By contrast, when exporters represent more sectors and more products with unique inputs, and lobby effectively for freer trade, we would see overall trade barriers go down. In a special interest channel that is not captured either by import-competers or exporters, governments may be most responsive to the most productive firms, all of which (exporters and almost-exporters alike) would benefit from reduced tariffs in their specific markets, lowering average indicators of

\(^{11}\) Furthermore, a difference in means test from the pooled World Bank Enterprise Survey data reveals that import-competing firms are significantly more likely than exporters are to believe they would lose customers if prices were to increase by 10 percent.
trade barriers. However, if there is an abundance of influential exporting firms and they begin to fear that lowered trade costs will increase their competition by making more domestic producers productive enough to export, this influence should translate instead to greater trade policy restrictiveness. These dynamics yield the following cross-national hypothesis:

\[ H1: \text{There should be a U-shaped relationship between the percent of exporting firms in a country and the restrictiveness of its trade policy.} \]

3.3 Empirics

3.3.1 Data

The data on firms used in this chapter come from the World Bank Enterprise Surveys, conducted between 2002 and 2017 with upper-level management from 50 to a few thousand firms in approximately 150 countries. I calculate the percent of exporting firms by aggregating the firm-level World Bank Enterprise Surveys data for each country-year, coding a firm as an exporter if they respond with a number greater than zero to the question “What percentage of your firm’s sales are: Exported directly,” and as a non-exporter for all other responses, including zero percent, don’t know, or refused to answer. The percent of exporting firms within an economy is the number of exporters divided by the total number of firms surveyed in that country-year.

In the cross-national analysis of H1, the key explanatory variable is the percentage of exporting firms, while the outcome of interest is weighted average tariff rate, extracted from the World Bank’s World Development Indicators. To assess the specified relationship, I regress weighted average tariff rates on percent of exporting firms and its squared value, with the transformation allowing me to assess the nonlinearity of the proposed relationship. If the expected relationship holds, then weighted average tariff rates should be highest at the ends of
the spectrum (i.e. very few and very many exporting firms. The model includes various controls as well. The Polity IV scale measures political regime type, addressing the concern that trade policy is not determined in the same ways across different governments. I acknowledge economic factors incentivizing freer trade policy by including GDP per capita and logged GDP in constant 2005 US dollars.

3.3.2 Cross-national Analysis: Exporters and Trade Policy

Having demonstrated that the firm-level lobbying processes operate in such a manner as to produce disparate outcomes on national trade policy based on the composition of the special interest channel, I turn to country-level analysis. Table 3.1 indicates the relationship between the percent of exporters within an economy and its trade policy restrictiveness, as measured by weighted average tariff rate, a measure of the extent of non-tariff barriers (NTBs), and an overall trade freedom index.
Table 3.1. Determinants of Trade Policy Restrictiveness

<table>
<thead>
<tr>
<th></th>
<th>Model 1.1</th>
<th>Model 1.2</th>
<th>Model 1.3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DV: weighted average tariff rate</td>
<td>DV: Non-tariff barrier penalty</td>
<td>DV: Trade freedom index</td>
</tr>
<tr>
<td>Percent of exporting firms</td>
<td>-0.190*** (0.070)</td>
<td>-0.248*** (0.063)</td>
<td>0.288 (0.2298)</td>
</tr>
<tr>
<td>Percent of exporting firms, squared</td>
<td>0.003** (0.001)</td>
<td>0.0044*** (0.0012)</td>
<td>-0.0069** (0.0028)</td>
</tr>
<tr>
<td>Political regime</td>
<td>-0.179*** (0.051)</td>
<td>-0.034 (0.025)</td>
<td>0.171 (0.129)</td>
</tr>
<tr>
<td>GDP, logged</td>
<td>-0.068 (0.210)</td>
<td>0.711*** (0.187)</td>
<td>-0.453 (0.535)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>-0.00017*** (0.00004)</td>
<td>-0.0002*** (0.00005)</td>
<td>0.0011*** (0.0003)</td>
</tr>
<tr>
<td>Constant</td>
<td>12.918** (4.973)</td>
<td>-1.38 (4.298)</td>
<td>76.765*** (12.868)</td>
</tr>
<tr>
<td>N</td>
<td>260</td>
<td>138</td>
<td>158</td>
</tr>
<tr>
<td>R²</td>
<td>0.32</td>
<td>0.278</td>
<td>0.259</td>
</tr>
</tbody>
</table>

OLS regression, SEs clustered by country
Note: *p < 0.1; ** p < 0.05; *** p < 0.01

Overall, the models in Table 3.1 present consistent empirical support for H1. While a one-unit increase in a country’s Polity IV score corresponds to a drop of about 0.2 percentage points in average weighted tariff rates, the percent of exporting firms remains a statistically significant predictor of trade policy restrictiveness as well. Figure 3.3, below, shows fitted values of average tariff rates across the range of a country’s percent of exporting firms, indicating that we should expect trade restrictiveness to be at its lowest point when a sizable array of exporting firms lobbies for liberalization in arenas that affect their production. Tariffs are at their highest when a very small percentage of firms exports, which is consistent both with the expectation that import-competers want protection, and with Drope and Hansen’s (2009) finding that these are the groups best able to overcome collective action problems in lobbying. The statistical significance of the squared term in the regression indicates, though, that this is not a monotonic
relationship, and countries with economies already dominated by exporting firms—to whom additional decreases in trade costs threaten greater competition—may face a bit of a backlash demand for trade barriers from exporters.

I also run several specifications of the model with different operationalizations of the dependent variable, shown in Models 1.2 and 1.3 of Table 3.1. Over decades of trade policy scholarship, scholars have created dozens of measurements of trade policy openness or restrictiveness, with little consensus as to which is the “right” one (David 2007). We routinely observe campaign contributions from firms to their representatives that aim to alter tariff rates, subsidies, trade agreements, etc. To conduct a thorough test of my proposed relationship, I employ two additional measures of trade policy openness as dependent variables: non-tariff barriers (NTBs) and an overall trade freedom index, both from the Heritage Foundation’s Index of Economic Freedom. While the relationship for NTBs should have the same concave as with tariffs, as it is a second measure of trade policy restrictiveness, the expected relationship for overall trade freedom should show a convex, inverted-U shape. Figures 3.4 and 3.5 show the
predicted probabilities for NTBs and trade freedom scores, respectively, across the range of percent of exporting firms, exhibiting additional support for the theorized relationships.

Figure 3.4. Fitted values, NTB penalty assessed.

My baseline models for the cross-national H1 lack the degrees of freedom to specify them using country fixed effects, which could control for unmeasurable country-level characteristics that affect the formation of trade policy. Lacking this option, I use the leave-one-
out method of cross-validation; this produces over 100 separate regressions, each of which fits the model on all but one of the countries in the sample, which can then be used to assess the model fit based on the known values of the dropped observations. Both statistical significance and coefficients on the key independent variables remain consistent throughout this process.

In addition to the cross-validation exercise, I ran an ordered logistic regression to verify the results from the NTB models, since in practice the only scores for this outcome are ranked 10, 15, and 20 point penalties; the only model that loses statistical significance (p=.195) on the squared exporters term is the trade freedom model employing both year fixed effects and robust clustered standard errors.

3.3.3 Testing the Causal Story: Firm-level Lobbying and Efficacy

If the theorized causal mechanism is truly underlying the policy relationships seen above, there are observable implications at the level of the firm. Specifically, we would expect to see the political influence of various groups of firms wax and wane at different proportions of exporting firms to import-competing firms. Where there is a low percentage of exporting firms, the special interest channel strongly consists of concentrated, import-competing industries: in such a context, exporters and, more generally, productive firms hold less influence on policymaking. By contrast, when a special interest channel is made up a moderate amount of exporters, their demands for liberal trade policy, joined by those of more productive domestic firms who could feasibly become exporters given falling trade costs, should result in a positive association between firm productivity and influence on policy. This does not necessarily mean, though, that exporters feel uniquely influential, as the liberalizing demands are coming from exporters and some domestic firms alike. Finally, where there is already a very high percentage of exporting firms, the previous relationships should switch: current exporters trying to maintain a more
protectionist status quo should feel more influential over policy, while more productive domestic firms lobbying for liberalization should feel least effective.

Concerning the determinants of firms’ perception of influence over relevant policy, I use ordered logistic regressions with standard errors clustered by country, wherein the dependent variable is a five-point scale of firms’ responses to, “How much influence do you think [your firm] actually had on recently enacted national laws and regulations that have a substantial impact on your business: 0 = no impact, 1 = minor influence, 2 = moderate influence, 3 = major influence, 4 = decisive influence.” I include in the models several of the firm-level traits indicated by Chong and Gradstein (2010) as possible determinants of firms’ perceptions of influence on policy, including the size of the firm (measured by number of full-time employees, logged), logged total sales from the past year, the percentage of state ownership, export orientation, and the firm’s broad sector of operations: manufacturing, services, agriculture, construction, or other. In addition, I include a dichotomous variable indicating whether or not the firm actively lobbied government to attempt to influence policy, and a measure of labor productivity (total sales, divided by the number of employees and logged).

Because the Enterprise Surveys discontinued its short battery on firm lobbying and perceived influences on policy after 2005 and did not include it for every country surveyed prior to that point, these firm-level models represent 20 countries, covering parts of Latin America, Eastern Europe and the Balkans, Central Asia, East Asia, and Sub-Saharan Africa. The only change made to the firm-level data was scaling firms’ reported total sales, reported in Local

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13 Cambodia, China, Ecuador, Kenya, Kyrgyzstan, Mali, Moldova, Montenegro, Pakistan, Peru, Philippines, Poland, Senegal, Serbia, Sri Lanka, Tajikistan, Tanzania, Uganda, Uzbekistan, Zambia
Currency Units, by their annual average exchange rate with the US Dollar\textsuperscript{14}. Table 3.2 shows descriptive statistics of firm-level variables included in the models, as well as for the country-level \textit{percent exporters} variable that I use to split the sample into low, medium, and high ranges of exporters.

### Table 3.2. Descriptive Statistics for Firm Lobbying Behavior

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence</td>
<td>Firm</td>
<td>0.55</td>
<td>0.96</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Exporter</td>
<td>Firm</td>
<td>0.2</td>
<td>0.4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Size (employees)</td>
<td>Firm</td>
<td>138.83</td>
<td>715</td>
<td>0</td>
<td>67,598</td>
</tr>
<tr>
<td>State-owned %</td>
<td>Firm</td>
<td>5.14</td>
<td>21.05</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Lobby</td>
<td>Firm</td>
<td>0.15</td>
<td>0.36</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Percent exporters</td>
<td>Country</td>
<td>26</td>
<td>10.9</td>
<td>0.93</td>
<td>61.79</td>
</tr>
</tbody>
</table>

The unit of analysis is the firm, but the sample is split into countries that have low, medium, and high percentages of exporting firms. I code countries as having a low percentage of exporting firms if they have less than 26 percent exporting firms, which is the mean percentage of exporters among the countries in the 2002-2005 lobbying sample. I code medium percentages of exporters as greater than 26 and less than 36 percent, which spans one standard deviation above the mean, and high percentages of exporters as anything greater than 36 (maximum 61). As is visible from the number of observations in each model below, this yields a somewhat normal distribution of firms across the three groups, but the results are robust to shifts in these cutoffs, as well as to the inclusion of country fixed effects. Table 3.3 presents the statistical results.

\textsuperscript{14} USD exchange rate conversions came from OANDA Corporation, supplemented for missing countries by the Central Banks of Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Moldova, and Uzbekistan.
Table 3.3: Firms’ Perception of Their Influence on Relevant Government Policymaking

<table>
<thead>
<tr>
<th>Model 2.1</th>
<th>Model 2.2</th>
<th>Model 2.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low % exporters</td>
<td>Medium % exporters</td>
<td>High % exporters</td>
</tr>
</tbody>
</table>

**DV**: “how much influence do you think [your firm] actually had on recently enacted national laws and regulations that have a substantial impact on your business?”

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 2.1</th>
<th>Model 2.2</th>
<th>Model 2.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exporter</td>
<td>-0.477***</td>
<td>0.015</td>
<td>-0.176</td>
</tr>
<tr>
<td></td>
<td>(0.177)</td>
<td>(0.133)</td>
<td>(0.167)</td>
</tr>
<tr>
<td>Productivity</td>
<td>-0.052***</td>
<td>0.099***</td>
<td>-0.095***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.015)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>State shares ownership</td>
<td>0.008*</td>
<td>-0.001</td>
<td>-0.005</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.001)</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Size (log employees)</td>
<td>0.090**</td>
<td>0.068**</td>
<td>0.065</td>
</tr>
<tr>
<td></td>
<td>(0.043)</td>
<td>(0.034)</td>
<td>(0.048)</td>
</tr>
<tr>
<td>Lobby</td>
<td>2.322***</td>
<td>1.941***</td>
<td>2.421***</td>
</tr>
<tr>
<td></td>
<td>(0.128)</td>
<td>(0.138)</td>
<td>(0.162)</td>
</tr>
<tr>
<td>Sector: construction</td>
<td>0.671**</td>
<td>-0.375</td>
<td>0.159</td>
</tr>
<tr>
<td></td>
<td>(0.294)</td>
<td>(0.368)</td>
<td>(0.548)</td>
</tr>
<tr>
<td>Sector: services</td>
<td>0.515***</td>
<td>0.161</td>
<td>(omitted)</td>
</tr>
<tr>
<td></td>
<td>(0.190)</td>
<td>(0.127)</td>
<td></td>
</tr>
<tr>
<td>Sector: agriculture</td>
<td>0.954***</td>
<td>-0.419*</td>
<td>-0.534</td>
</tr>
<tr>
<td></td>
<td>(0.225)</td>
<td>(0.243)</td>
<td>(0.438)</td>
</tr>
<tr>
<td>Sector: other</td>
<td>(omitted)</td>
<td>0.691</td>
<td>(omitted)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.691)</td>
<td></td>
</tr>
</tbody>
</table>

| N                        | 1,689     | 2,014     | 1,067     |
| Countries                | 9         | 6         | 5         |
| R²                       | 0.13      | 0.07      | 0.14      |

Ordered logistic regression, country fixed effects, SEs clustered by country
Note: *p < 0.1; ** p < 0.05; *** p < 0.01
Across all three models, whether firms have lobbied government or not is a strong and consistent predictor of their perception of their own influence. Model 2.1 also indicates the statistical significance of firms’ export orientation and their levels of productivity: both exporters and more productive firms (whose numbers include, but are not limited to, exporters) feel less influential on policies that affect their business in settings with a low percentage of exporting firms. In such contexts, the special interest channel is upwards of 75 percent import-competing firms which are less productive and demand protection; another way to read the coefficient on productivity is that these less productive firms do feel more influential in policymaking.

In contexts where there is a medium range of exporting firms, my theory expected that the most productive firms, regardless of their export orientation, would feel more influential in policymaking, as both exporters and the most productive domestic firms benefit from lowered trade costs and thus exert considerable pressure on the state for trade barrier reductions across a number of sectors and products. Model 2.2 shows that the coefficient on productivity is again statistically significant, but has switched signs, indicating that more productive firms are significantly more likely to feel that they had a major or decisive impact on policies that affect their business. However, export orientation is not statistically significant: this makes sense, if both exporters and productive non-exporters lobby successfully for the same policy outcomes.

Model 2.3 represents the effects of firm level traits on their perceived influence in countries with a high percentage of exporters – more than one standard deviation above the cross-national average. My theory suggested that we should see the coefficient on export orientation take on statistical significance in a positive direction, which is not borne out by the data. The sign on the statistically significant coefficient for labor productivity, though, has once

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15 However, a difference in means tests indicates that there is not a significant difference between whether exporters or import-competers are more likely to lobby in the first place across different percentages of exporting firms.
again reversed, indicating that being more productive does not translate into greater efficacy in special interest channels characterized by a high percentage of exporters. This could be consistent with the most productive domestic firms being unable to translate their desire for reduced trade costs into policy influence. Overall, there is mixed support for my expectations about firm lobbying efficacy, but the general findings suggest that in most contexts, the expected types of firms see their influence wax or wane dependent on the percent of exporting firms in the special interest channel.

3.4 Conclusion

New New Trade Theory (NNTT) has forced a reconsideration of our extant scholarship on trade policy formation by introducing heterogeneity at the level of the firm, rather than assuming a representative firm that forms its policy preferences based on its utilization of scarce or abundant factors. Based on US trade data, NNTT posits that exporting is a rare activity among firms, the costs of which only the largest and most productive firms can bear. This paper has first verified that this relationship is true globally, and then sought an answer to the puzzle of variation in trade policy openness given the lack of support for voter-driven models and the overwhelming abundance of import-competing firm seeking protection via special interest pressure.

Rooted in theories of firm lobbying efficacy, I have identified various configurations of import-competing and exporting firms that might engage in lobbying for particular trade policies, and developed a theory of when exporters favoring trade liberalization should win out over import-competing firms. I hypothesized a nonlinear relationship between trade policy openness and the percent of exporters in a given country and tested it quantitatively, finding strong support for the idea that protectionism is highest when there are very few exporters in the arena and,
somewhat counterintuitively, when there are very many, at which point they stand to benefit more from status quo or increasingly restrictive trade policies to shut out domestic firms who might have begun to export given falling trade costs.

If the ratio of exporting to import-competing firms does in fact alter trade policy through lobbying, then the policies through which firms enter the market and grow become extremely relevant to determining whether a country will face more pressure for an open market or for trade protection. Stemming from this paper, I aim next to analyze the institutional factors that help determine a country’s composition of exporting versus import-competing firms. If political institutions permit easy entry into the domestic market but impose high costs to export, the lobbying arena should be awash with small, globally-uncompetitive firms seeking protectionist trade policies. Conversely, if it is hard to enter the market but easy to grow upon bearing the costs of entry, or if these exercises are comparably complex, trade policy lobbying may be dominated by a handful of large, productive that push for openness. If political institutions and incentives systematically shape how countries implement market entry policies, we are considerably closer to a firm-based special interest pressure answer to why trade policy openness varies so dramatically across regime types.
4. DEMOCRATS, DICTATORS, AND THE DOMESTIC BUSINESS CLIMATE:
POLITICAL INCENTIVES FOR MARKET ENTRY REGULATIONS

Abstract. Exporting firms lobby the government for freer trade, while domestic firms
lobby for protection, but to what extent do domestic political institutions alter the size of
these two groups? This paper proposes that regime type precedes and determines the
composition of liberalizing versus protectionist voices in the special interest channel. In
democracies, leaders implement market entry policies that maximize allocative efficiency,
which NNTT scholars put forth as a previously-unconsidered source of gains from trade.
Non-democratic leaders, beholden to a much narrower winning coalition, face no such
incentive to implement market regulations leading to widespread economic welfare. I test
these hypotheses globally using country-level aggregated data, and at the firm level using
a most-similar case design between Angolan and Namibian firms. I find strong
relationships between political regime and firm exporting behavior, contingent upon their
systematically different implementation of market entry regulations.

4.1 Introduction

Since the third wave of democratization and fall of communism in the latter half of the
twentieth century, democratic governance and free market capitalism have been upheld as the
standard for legitimacy in political economy. Scores of papers assess the relationship between
transparent government and trade and investment inflows at a macroeconomic level. Especially
in the realm of trade policy and outcomes, scholars have demonstrated a robust negative
relationship between political transparency and tariffs (see for instance Milner and Kubota
2005), while hinting that transparent institutions might lend a convenient screen of credibility
that allows democratic governments to implement non-tariff barriers to trade at a higher rate than
their autocratic counterparts (Kono 2006). In these theorized causal relationships, national
politics clearly precede economics.

Any theory of trade policy formation that ignores corporate interests risks major
oversight. Firms constitute a unique set of economic actors in that they hold preferences over
political outcomes that stem largely from material considerations. Previous arguments hold that
democracies implement more liberal trade policies because of some voter channel comprised of
consumers, a channel which is fundamentally unique to democracies. Following Guisinger (2009), however, it is apparent that voters in democracies are unlikely to know or care much about trade policy options, and fail to reward or punish politicians on the basis of their trade policy decisions. I argue that there is a systematic difference in trade policy openness across the spectrum of political transparency, but that this is not accomplished through demands from voters, but through a special interest channel dominated by firms.

New New Trade Theory, developed at the start of the millennium, stems from the fact that firms vary along such lines as size, productivity, and innovation, a finding that rejects the notion of a “representative” firm. This leads us to systematic analysis of the types of firms that engage in exporting behavior. Previous work has also demonstrated that exporting firms lobby the government for freer trade policies, contrary to the longstanding assumption (per Grossman and Helpman 1994) that the special interest channel is dominated by firms lobbying for trade protection. In some national or temporal contexts, one camp may be relatively stronger than the other, increasing its chances of obtaining its preferred policies. Given that firms vary in ways that systematically change their preferences on trade protection or policy liberalization, they lobby the government for an assortment of trade policy configurations that are in direct competition with one another; the special interest channel becomes a political battleground in which a group that trade scholars had previously treated as cohesive is instead placing contradictory demands on the government.

This paper aims to apply the economic insights of NNTT and heterogeneous firm models of trade to the abundant literature on transparent vs. opaque political institutions and their accountability to various domestic interests. It advances the debate on the causal processes linking political and economic openness, proposing that democracies implement market entry
policies in a manner different from non-democracies, allowing a greater percentage of domestic firms to export internationally.

Following this introduction, Section 2 develops a theoretical framework linking political regimes to market participation policies, and these policies directly to a country’s proportion of exporting firms in the special interest channel. It posits directional country-level hypotheses, which are tested in Section 3. I analyze statistical and substantive significance at the country-level using linear regression analysis, finding that democracies implement policies regulating entry into domestic and export markets that are relatively similar in their level of complexity, whereas non-democracies impose disproportionately more complex export regulations, accounting for their lower proportions of firms that export. I assess the plausibility of my proposed causal story underlying these relationships by comparing market regulations and firm-level behavior between autocratic Angola and democratic Namibia. In Section 4, I synthesize the results obtained from my regression analysis and case studies, and conclude with practical implications, relevance to the research program, and notes on future iterations of this project.

4.2 Theory

The economic roots of NNTT demonstrate that heterogeneity in firm productivity may lead to an additional source of gains from trade: when productivity is distributed as such—rather than having static values among all exporting firms and among all import-competing firms—as variable trade costs fall, firm movement between domestic and export markets yields increased trade share, greater probability of exporting, and average productivity of the domestic market (Melitz and Redding 2015). I propose that, because their institutions are more inclusive and their winning coalition is larger than those in autocratic regimes, democracies must try to maximize
aggregate welfare, which they can do through strategic implementation of market entry and exit regulations.

4.2.1 Political Institutions and Legitimacy

In a comprehensive review of the concept of political legitimacy, Booth and Seligson (2009) connect its multiple forms and their respective sources: a deeper, “diffuse support” bred from long-term socialization and ideology, and a more variable “specific support” associated with evaluations of the performance of a particular regime (Easton 1975:445-9). The so-called “third wave” of democratization, from the last decades of the Cold War to its immediate aftermath, posed a dual existential threat to state-controlled economic markets and the autocratic regimes that frequently espoused them by challenging their legitimacy on both fronts. Since then, democratic political institutions and free-market economics have been heralded as the benchmark for legitimacy in the realm of political economy.

Regarding legitimacy derived from diffuse support, democracies in the present era enjoy an advantage over other political regimes in the sense that the past several decades have constituted a long-term socialization process emphasizing the normative superiority of democracy. Beginning (semi-ironically) with “the end of history,” the post-Cold War era has been characterized by normative appeals for the spread of democracy to promote peace and prosperity (Fukuyama 1989). Two proposed pillars of diffuse support are the “existence of a political community” and “support for core regime principles” (Booth and Seligson 2009: 49): democracies by definition must have wider political communities than autocracies (per selectorate theory, in Bueno de Mesquita 2005), in addition to more inclusive principles which should enjoy wider normative support. Per the logic of selectorate theory and winning coalition size, though, in order to secure specific support democratic regimes must provide quality outputs
to a larger group of constituents than do their autocratic counterparts. Where democratic political regimes have the clear upper hand in legitimacy obtained through diffuse support, they must measurably outperform other, less normatively legitimate regimes to obtain specific support from a meaningful coalition.

As briefly discussed above, much of the extant literature connecting economic policy and political regimes comports with the idea that, to remain in power, democratic governments must enact policies that provide tangible economic gains to a larger constituency base than autocratic governments do. Democracies tend to lower tariff barriers (Milner and Kubota 2005), attract more foreign direct investment (Jensen 2003), provide more social benefits (Lake and Baum 2001), and grant domestic producers domestic monetary policy autonomy through exchange rate flexibility (Bearce and Hallerberg 2011) more so than do autocracies. But regarding trade policy in particular, democratic governments may face tension between domestic voters and a special interest channel comprised of firms (per Grossman and Helpman 1994: 835), wherein protectionist policies are seen as “for sale” to lobbyists making campaign contributions on behalf of domestic industry. Democrats accordingly face a tradeoff in trying to maximize economic welfare between themselves (via collected contributions from firms) and the average voter that is largely absent from autocratic politics, in which the need both for reelection campaigns and for pleasing voters is minimized if not eliminated entirely.

The Grossman-Helpman (1994) model suggests that the countervailing domestic demands placed on governments formulating trade policy revolve around the fundamentally different needs of the average voter—who is a consumer benefiting from the lower prices, higher innovation and quality, and increased variety associated with freer trade—and domestic industry seeking protection from international competitors. However, this assumption does not hold up in
the face of two sets of findings: 1) that vote choice is not strongly shaped by trade policy (Guisinger 2009), and 2) that firms are not uniform, and that their heterogeneity in production processes leads them to engage in lobbying for different policies – and not exclusively protectionist ones, at that. Given more international ties (for example, multinational corporations, having production centers in several countries), industries tend to lobby their home-country government for more liberal trade agreements (Milner 1988). Furthermore (and likely through related mechanisms), more productive US firms lobby the government at a higher rate, and in favor of free trade agreements, prompting the converse of Grossman and Helpman (1994) with “liberalization for sale” (Plouffe 2012, Coen 1998). If we accept the heterogeneous firms assumption, then in order to achieve legitimacy via specific support, democratic political institutions must juggle an inconsistent set of policy preferences—notably not those of the median voter—which could change at any time based on the types of firms in the special interest channel.

4.2.2. The Melitz Model and its Implications for Economic Welfare

One of the key insights NNTT brings to trade literature is the idea that it is inaccurate to invoke the idea of a “representative” firm, even within an industry, and to suggest that this serves as a bellwether for the behavior, needs, and preferences of all firms in that industry. This is particularly evident in the firm-level decision to engage in international exporting. In the context in which NNTT was developed (largely American, Canadian, and Japanese firms in the late 1990s and early 2000s), firms vary widely in terms of number of employees, wages paid, productivity, innovation, etc., all of which may factor in to the ability and willingness to export.

Moving from a world of representative firms (i.e. a homogeneous-firm framework) to NNTT’s heterogeneous firms world transforms the firm as a political actor from an entity—each
functionally equivalent to any other—with fixed preferences, to a multifaceted, autonomous political agent. Comparing the welfare implications of moving from autarky to international trade in both a homogeneous-firm model and a heterogeneous-firm model, Melitz and Redding (2015) propose that a critical form this autonomy takes for heterogeneous firms is the free market entry and exit decision.

Considering firms as divided between “D-types” producing for the domestic market only and “X-types” producing for the domestic and/or international market (notation per Baldwin 2005 and others), NNTT accounts for ways in which “trade liberalization induces intra-industry reallocations of resources between those different types of firms” (Melitz and Redding 2015: 1105). While scholars have acknowledged this new potential source of gains from trade, until recently formal modeling had failed to yield support for such gains actually materializing. As noted in Melitz and Redding (2012), Arkolakis, Costinot, and Rodríguez-Clare (2012) developed homogeneous and heterogeneous firm models, calibrated each to the same domestic trade share and trade elasticity, and demonstrated that the welfare gains from trade in each should be identical. They therefore assess the impact of NNTT on the welfare effects of trade as being minimal.

Melitz and Redding’s (2015) critical reconsideration of this argument hinges upon firms’ endogenously-made decision to enter and exit each market (domestic and international), a logical extension of NNTT’s insights regarding widely-varied levels of productivity across firms. As such, the heterogeneous firm model contains an extra parameter, implying that its welfare gains from trade are larger than those of the homogeneous firm model. In their words (emphasis in original), “there are larger welfare gains from reductions in trade costs and smaller welfare losses from increases in trade costs in the heterogeneous firm model,” and these accrue from
firms at different levels of productivity making entry and exit decisions concerning domestic and export markets (Melitz and Redding 2015: 1106, 1115).

Firms select into and out of each market on the basis of their productivity level, which is endogenous to trade costs. These exit and entry decisions change the average productivity levels within the groups of D-type firms and X-type firms in an NNTT-compatible heterogeneous firm world, whereas in a homogeneous firm world, all D-types share some level of productivity that is not compatible with exporting, and all X-types share some level of productivity that is, keeping their average productivity levels constant as firms enter or exit. NNTT therefore accounts for an additional source of welfare gains from trade, provided free market entry and exit.

4.2.3. Regulations on Market Entry across Political Regimes

Additional gains from trade in a world with heterogeneous firms accrue from firms’ free entry and exit into or out of the domestic and export markets, which is contingent upon the cost of trade. Melitz and Redding (2015) argue that in a political context with lower trade costs, these gains should be larger than one in which firms’ entry or exit does nothing to change the average productivity distributions (i.e. a homogeneous firms world), and as trade costs increase, the welfare losses here should be smaller. Trade costs themselves, for the sake of these models, are treated as exogenously given, and entry into or exit from domestic and export markets are treated as effortless. Empirically speaking, this is not so.

Decades of research on the bureaucratic politics of market regulations yield two primary—and seemingly contradictory—theoretical approaches: public choice theory and public interest theory. Public choice approaches treat the complexification of business startup procedures as a form of rent-seeking behavior on the part of public officials (Stigler 1971, Tullock 1967). Higher startup costs are viewed as normatively bad, and are associated with
market failures and higher corruption. This can be applied to export costs as well – more days, documents, and steps it takes for a firm to enter a market or for its goods to reach it create more junctures at which self-interested bureaucrats may extract bribes, skim off the top, etc. A public choice approach would therefore connect obstacles to market entry/exit, and the trade costs that influence entry/exit decisions, to less politically-transparent, less legitimate regimes.

By contrast, public interest theoretical approaches view higher market regulation as a sign of a responsible government concerned with providing socially-desirable outcomes (Pigou 1938). If the procedures associated with entering the domestic market are complex and costly, it stands to reason that the firms that do enter the market are those best situated to be competitive – entry/exit regulation serves as sort of a weeding-out procedure.

Indisputably, both democracies and non-democracies implement market entry and exit barriers. But one way we might identify where each theoretical framework is applicable is by looking at what government actors and society stand to gain from barriers in different markets. Where officials create obstacles to entry into the domestic market, they may be doing so with either motivation: extorting more from would-be businesses or selecting out the least productive firms. But regulations that inhibit firms’ transition from D-types to X-types provides opportunities for extortion to corrupt officials with no accompanying societal benefits. To that end, I am agnostic about whether different political regimes impose more or fewer regulations to entry into the domestic market, but expect that democracies should implement fewer regulations for entry into exporting markets than non-democracies. By reducing trade costs and simplifying movement into export markets, they create climates that most closely resemble the heterogeneous firm model’s conditions that allow for maximized allocative efficiency, which increases economic welfare for their larger winning coalition. By contrast, non-democratic
officials who are not beholden to such a large constituent base can afford both higher trade costs and higher regulation of export market entry, bringing their welfare gains from trade closer to those from the homogeneous firm model. I present a series of hypotheses through which political openness is associated with economic openness, where market regulations serve as the missing causal link. More democratic regimes implement startup and export regulations that are comparable in terms of their complexity, such that the market is not flooded with small firms who have found startup easy but find exporting impossible. This is more the case in autocracies, with disproportionately high export regulations serving as the link that leads to their lower percentages of exporting firms.

These policy configurations in turn have implications for the protectionist or free-market demands of firms in the special interest channel. When governments create climates in which firms find exporting relatively easier than startup, this should create a market saturated with X-type firms, thus creating a strongly pro-free trade special interest channel. If startup is relatively cheaper than exporting, the market should be saturated with small and uncompetitive D-type firms, who lobby for protection. I thereby highlight a potential causal mechanism through which politics precedes the composition of the trade policy special interest channel, and shed light on the long-standing debate on how legitimate, transparent political regimes coincide with legitimate, free-market economic ones.

From the expectations laid out above, I develop several hypotheses, both at the level of the country and the firm. The first relationship to be established descriptively is that which exists between a country’s political institutions and its percent of exporting firms. I expect the following:
**H1:** Democracies should, on average, have a higher percentage of exporting firms than do non-democracies.

Beyond this association between regime type and exporting behavior, I propose two additional hypotheses relating regime type to specific configurations of market entry policies. Hypothesis 2 indicates an expected relationship between political regime type and export market regulations, which is where I anticipate the critical difference between democracies and non-democracies. There should be a positive relationship between political openness and the percentile in which a country scores for its exporting conditions.

**H2:** Democracies should score in a higher percentile for favorable policy configurations on export activity (firm movement into X-markets) than non-democracies.

If this is indeed the case, then a ratio comprised of a country’s percentile ranking for startup regulations to export regulations—with export regulations as the denominator—should be lower in democracies than non-democracies. As is visible from the dashed line in Figure 4.1, representing the mean percentile of export regulation conditions across the range of political openness, the fitted values of the denominator are always smaller than those for the numerator (percentile ranking of startup regulations). However, as regimes become more democratic, the gap between a country’s score for export conditions and startup conditions narrows. This leads to Hypothesis 3, through which we connect regime type to a particular configuration of policies affecting movement into and out of domestic and export markets.
**H3:** Democracies should have a lower ratio of startup costs (firm movement into D-markets) to export costs (firm movement into X-markets) than non-democracies.

### 4.3 Empirics

#### 4.3.1 Cross-national Analysis: Regime Type, Market Entry, and Exporters

In this section I present three sets of empirical results from cross-national data. First, I establish that there is a positive statistical association between a country’s percent of exporting firms and its political freedoms. Second, I regress political variables and a battery of economic and geographic controls on a country’s percent of exporting firms. Third, I demonstrate via multiple regression that the nature of a country’s domestic political structures corresponds systematically to its degree of regulatory obstacles to market entry and exporting. Based on this relationship, I specify a model of exporter percentages that includes both political variables and market variables; the significant effect of political institutions is washed out by measures of export and market entry obstacles, highlighting these barriers as the causal mechanism through which politics predetermines the composition of protectionist versus pro-free-trade firms in the
special interest channel. Each set of results will be preceded by a discussion of the relevant variables and methods, and followed by an analysis of the primary findings.

To assess $H1$, I run a two-sample difference in means test, comparing the mean level of exporting between the democracies and the non-democracies in my sample. I created the firm exporting variable as a country-year aggregation of firms that report income from direct exports greater than zero, divided by the total number of firms surveyed in that country-year; these data come from the World Bank Enterprise Surveys and represent 271 country-years between 2002 and 2014. The treatment variable a dichotomized form of the Polity IV variable, which I will be using in the linear regressions to follow, so as to capture as much information about the range of political transparency as possible. I coded countries with a Polity score higher than six as full democracies, and all else non-democratic. Figure 4.2.1 indicates the two groups’ means with 95 percent confidence intervals: democracies’ mean of 22.31 percent is statistically significantly different from non-democracies’ mean of 17.29 percent.

Although Polity IV is highly correlated with other operationalizations of regime type, such as Cheibub, Gandhi, and Vreeland’s (2010) dichotomous measure ($\rho = 0.897$), it is worth noting that scholars conceive of regime distinctions in several ways, so I sought confirmation of these results with a different operationalization as well. With the CVG measure which was intended to treat regime types as dichotomous, democracies’ mean of 21.5% exporters is statistically significantly different from non-democracies’ mean of 16.3% exporters.
Table 4.1 presents a linear regression analysis of the national characteristics that may determine the percentage of X-type firms in a country. The key explanatory variable is Polity IV, but the model also accounts for economic factors—the size of the economy as measured by the logged value of GDP, and development as measured by GDP per capita—and geographic factors—the logged square mileage of the country and whether or not it is an island—that may influence firms’ propensity to export. More economically developed countries may have a higher proportion of exporting firms because they have larger, more competitive industries. Regarding geography, a firm in the Algeria’s capital city of Algiers could feasibly sell its products to consumers in Sali, Algeria, 1000 miles away, and still remain a D-type firm, while a comparable firm in Rabat, the capital of neighboring Morocco, cannot ship comparable goods that distance.
without trading across national borders, making them an X-type. Thus geographically larger countries might have systematically lower proportions of exporting firms despite their firms shipping goods the same distance as firms in smaller countries.

Table 4.1: Determinants of Exporting Behavior at the National Level

<table>
<thead>
<tr>
<th></th>
<th>H1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DV: Percent of exporting firms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political regime</td>
<td>0.413***</td>
<td>(0.182)</td>
</tr>
<tr>
<td>Island</td>
<td>-1.287</td>
<td>(2.566)</td>
</tr>
<tr>
<td>Geographic area (sq. miles, logged)</td>
<td>-0.033</td>
<td>(0.457)</td>
</tr>
<tr>
<td>GDP, logged</td>
<td>1.107</td>
<td>(0.673)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>0.0001</td>
<td>(0.0012)</td>
</tr>
<tr>
<td>Constant</td>
<td>4.401</td>
<td>(15.473)</td>
</tr>
<tr>
<td>N</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.26</td>
<td></td>
</tr>
</tbody>
</table>

OLS regression using year fixed effects, SEs clustered by country
Note: *p < 0.1; ** p < 0.05; *** p < 0.01

Based on this regression, political regime is the only explanatory variable with any predictive power over a country’s percentage of exporting firms. Predicted values indicate that moving from the least democratic regime to the most results in an expected increase in percent of exporting firms from approximately 16 to 23 percent. However, my primary argument revolves around the regulatory barriers systematically imposed on business startup and exporting by democratic and non-democratic regimes. To that end, I present a series of tests with a twofold aim.
Firstly, I confirm the statistical correlation between political openness and certain policies that affect the proportion of exporting firms relative to import-competing ones in the special interest channel. Secondly, my results indicate that, to the extent that political regimes lay a foundation for the composition of X-type versus D-type policy demands they will face, this is accomplished through the regime’s association with market policies. To the first point, I construct a variable that captures the critical aspects of my two by two typology above: economies in which businesses find it relatively easy to bear the costs of trading across borders, but entrepreneurs must clear significant hurdles to start a business at all.

For this measure, I use data from the World Bank Doing Business Reports. These reports award each economy a Distance to Frontier (henceforth D2F) score in several categories; this indicates how a country compares to all economies over the range of the data (2004-2013), aggregating the country’s scores on several indicators within the category. I create a ratio out of the Starting a Business D2F and the Trading across Borders D2F. The former indexes the criteria listed above, while the latter captures days to export, standardized costs of exporting/importing in USD, and documents required to export. The ratio is created by dividing the startup measure by the export measure, so values lower than 1 indicate that it is easier for an extant firm to engage in international trade than it is to start a business, while values greater than 1 suggest that it is a relatively light burden to start a business but far harder to break into the ranks of those that operate in the international economy.

I regress regime type—measured here by Polity IV—on a country’s D2F for business startup, on its D2F for exporting, and on the ratio of startup D2F to exporting D2F, which I refer to as startup/export cost ratio. These models control for development (through GDP per capita) and size of the economy overall (through logged GDP). While some scholars (notably Djankov
et al. 2002) find that regime type determines regulatory obstacles to market entry, it is plausible that economies of particular sizes or levels of development prefer certain business policy configurations based on strategic calculations of firms’ potential contributions to the economy. Additionally, economic variables might contribute more heavily to import and export policy than political ones, so these controls are theoretically important. Table 4.2 presents the results.

<table>
<thead>
<tr>
<th></th>
<th>H2</th>
<th>H3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DV:</strong> Ease of startup</td>
<td><strong>Political regime</strong> 1.725*** (0.381)</td>
<td><strong>-0.220</strong> (0.127)</td>
</tr>
<tr>
<td></td>
<td><strong>GDP, logged</strong> 2.212** (1.031)</td>
<td><strong>-0.120</strong> (0.219)</td>
</tr>
<tr>
<td></td>
<td><strong>GDP per capita</strong> 0.0008*** (0.0002)</td>
<td><strong>-0.00002</strong> (0.00002)</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>-9.389 (24.417)</td>
<td>5.533 (5.346)</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>123</td>
<td>122</td>
</tr>
<tr>
<td><strong>R</strong>^2</td>
<td>0.42</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Table 4.2: Explaining Market Entry Regulations

In practice, democracies have significantly better market entry conditions and easier export climates than do non-democracies, but the division between regimes is more stark when taking into account the costs of exporting, as shown in Figures 3a and 3b, below. This comports with the implication drawn from combining NNTT and welfare gains from trade with regime-dependent necessities of specific support: democracies should seek to make entry as free as possible and trade costs as low as possible to maximize the difference in welfare outcomes between the homogeneous and heterogeneous firm models. Furthermore, because the difference between regulations in democracies and non-democracies is larger for the indicator in the
denominator (export conditions) than the indicator in the numerator (startup), we see a statistically significant negative relationship between the overall ratio of regulations and regime openness.

Even taking economic size and level of development into account, political openness is statistically the strongest predictor of startup/export cost ratio. Indeed, it is the only statistically significant association in the regression: policies on market entry and engagement with the international economy are inherently political decisions with a strong tie to cost-benefit analyses by governments that are either benevolent or opportunistic. The negative sign on Polity’s coefficient indicates that less open governments are systematically more likely to create business climates in which barriers to entry into D-markets are disproportionately lower than those to entry into X-markets, thus flooding the special interest channel with domestic producers demanding protectionist policies.
Figures 4.3 and 4.4, below, present fitted values for the dependent variable in Hypotheses 2 and 3 along the range of Polity. Figure 4 indicates that moving from the least open regimes to the most open democracies moves ease of exporting (entry into X-markets) from below the 30th percentile nearly to the 70th. Practically speaking, this translates to a difference of 2 additional documents, nearly three additional weeks, and more than twice the cost to export in the most politically opaque regimes. Countries ranking around the 30th percentile in ease of exporting require—on average—8.5 documents, 38.5 days, and $2062/container to export, while countries ranking around the 68th percentile require an average of 6.5 documents, 20 days, and $1028/container.

**Fig. 4.3. Ease of Exporting Across Political Regimes**
Figure 4.4 shows fitted values for *startup/export cost ratio* along the range of Polity IV scores. Moving from the most opaque political regimes to the most transparent, the ratio would drop from about 4.5—that is, firms find it more than four times easier to start a business than to export—to just under one, a climate in which a country scores in almost the exact same percentile for ease of starting a business as they do for ease of firms engaging in exporting.

![Fig 4.4: Ratio of Business Startup Conditions to Exporting Conditions Across Political Regimes](image)

Having established a statistical connection between market policies and political regimes, we must now demonstrate that, to the extent that political regimes are associated with a country’s proportion of exporting versus import-competing firms, the missing link in the casual chain is the obstacles to market entry and export-market participation that particular regimes construct. Table 1 indicated a statistically significant relationship between political openness and a country’s percent of exporting firms. Here, I specify a nearly identical model, with the sole difference being the introduction of *startup/export cost ratio* as an independent variable. Table 4.3 below presents these results.
### Table 4.3. Market Entry Regulations as a Predictor of Exporting Behavior

<table>
<thead>
<tr>
<th></th>
<th>DV: Percent of exporting firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Startup/export cost ratio</td>
<td>-0.692***</td>
</tr>
<tr>
<td></td>
<td>(0.202)</td>
</tr>
<tr>
<td>Political regime</td>
<td>0.152</td>
</tr>
<tr>
<td></td>
<td>(0.094)</td>
</tr>
<tr>
<td>Island</td>
<td>0.553</td>
</tr>
<tr>
<td></td>
<td>(3.095)</td>
</tr>
<tr>
<td>Geographic area (sq. miles, logged)</td>
<td>0.526</td>
</tr>
<tr>
<td></td>
<td>(0.644)</td>
</tr>
<tr>
<td>GDP, logged</td>
<td>1.372*</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>(0.0012)</td>
</tr>
<tr>
<td>Constant</td>
<td>-4.829***</td>
</tr>
<tr>
<td></td>
<td>(1.362)</td>
</tr>
</tbody>
</table>

| N                          | 16,710                         |
|                           | R²                               | 0.23                            |

OLS regression using year fixed effects, SEs clustered by country

Note: *p < 0.1; ** p < 0.05; *** p < 0.01

Along with economic indicators, the *startup/export cost ratio* is a statistically significant predictor of a country’s percentage of exporting firms. Notably, the statistical significance of political regime type is washed out by the introduction of market regulations correlated with political regime. That is, the *startup/export cost ratio* variable captures much of the unique information a broad regime type variable provides toward the explanation of firm exporting behavior within a country. I take this as tentative confirmation that, with the analysis of market entry regulations, we have identified the causal mechanism through which democracies manage to encourage greater proportions of exporting firms.
4.3.2 Testing the Causal Story: Firm Productivity in Namibia and Angola

These cross-national relationships generate observable implications for firms in various political environments. In order to reap the greatest welfare gains from trade, democracies configure their market entry/exit regulations such that it maximizes allocative efficiency, drawing a sharp distinction between the average productivity levels of D-type and X-type firms, whereas non-democracies can afford higher trade costs and market entry/exit regulations that minimize or remove the parameter of allocative efficiency, as in the homogeneous firm model. As such, the difference between average productivity levels among D-type and X-type firms should be greater in democracies than non-democracies.

Having found preliminary support for my theory at the country level, it is necessary to supplement these findings with tests at a smaller unit of analysis because, while my theory centers around domestic institutions and policies, the microprocesses of the theory lie in the firm-level decision to export. In this section, I employ a most-similar case design, comparing the average productivity levels of D-type and X-type firms between two countries that are alike in most regards with the exception of regulatory barriers that affect market participation, which comport with the regime-based theory specified in the previous section. To this end, I examine Namibia and Angola, two of Africa’s largest countries bordering each other on the southwestern coast of the continent.

Namibia. Having transitioned through periods of autonomy, German colonialism, and multiple forms of political administration by South Africa prior to its 1990 independence, Namibia now stands as one of Sub-Saharan Africa’s most robust democracies (CIA World Factbook). Though initially explored in the 15th century by the Portuguese, what is currently Namibia was not colonized until the 1884 Berlin Conference, ceding the territory to the German
empire as German South-West Africa. Following Germany’s defeat in World War One, the League of Nations mandated the territory to the United Kingdom, to be administered by South Africa; after the dissolution of the League of Nations, South Africa maintained this mandate, despite multiple United Nations challenges to its rule. The political infrastructure created by the Germans and subsequently by the South Africans was heavily characterized by racial segregation, evinced most strongly by native “homelands” and apartheid in parliament (Dierks 2005).

The South West Africa People’s Organization (SWAPO) was founded as a Namibian nationalist movement in the 1960s, and its paramilitary wing spent more than twenty years waging armed guerilla campaigns for Namibia’s independence from South African administration. This People’s Liberation Army of Namibia (PLAN), headed by SWAPO’s founder Sam Nujoma, revolved around a Marxist ideology which envisioned a socialist democracy. After gaining independence in 1990, Namibia has had a remarkably successful shift to a multiparty democratic system; despite robust political competition, the country has remained under SWAPO’s political leadership since independence, although the party has largely distanced itself from its Marxist origins (Tötemeyer 2007). The executive branch is led by President Hage Geingob of SWAPO, elected by absolute majority for a five year term, while the legislative branch is composed of a bicameral parliament elected mostly through proportional representation (CIA World Factbook). Today these bodies govern and legislate for the twelfth-largest country in Sub-Saharan Africa, whose mining- and agriculture-based economy has experienced several years of 5-6 percent GDP growth in the past 15 years (World Development Indicators).
**Angola.** What is today Angola, Sub-Saharan Africa’s fifth-largest country, was preceded by a long political history of powerful kingdoms, initially formed by nomadic hunter-gatherers and then restructured more formally by Bantu migrants, emphasizing agriculture and trade (Henderson 1979). It was explored and colonized by the Portuguese crown in the late 15th century, whose representatives set up settlements and trade posts, extensively mining the coast for slave labor (Collelo 1991). With prevalent tropical diseases and famines that kept the Portuguese out of the interior of the country, Angola was a prime example of an extractive colony, inheriting little of the political infrastructure of their old-state colonizers. In fact, after the Berlin Conference, Angolans were specifically prohibited from engaging in politics via parties or unions (Okoth 2006).

In the wake of these clearer consolidations of colonial power, a fragmented Angolan nationalist resistance arose, comprised of three separate militant movements: the National Front for the Liberation of Angola (FNLA), the National Union for the Total Independence of Angola (UNITA), and the Popular Movement for the Liberation of Angola (MPLA). During the civil war that raged from 1961 until 1975, these factions competed with one another, supported at times by various sympathetic communist regimes, with the Marxist MPLA ultimately gaining control over a country struggling to recover from over a decade of political violence. Jonas Savimbi’s MPLA began widespread nationalization of the economy which ultimately led to an attempted coup d’état in 1977, prompting the party to temper its Marxist origins and focus more on social democracy in the 1990s.

The country ultimately failed to consolidate its democratic governance, with opposition from UNITA eventually leading to a return to civil war. Although it has since stabilized somewhat, a new constitution adopted in 2010 abolished presidential elections and separation of
powers, and parliamentary elections held in 2012 were highly flawed (Freedom House). While it enjoys a relatively high GDP per capita for the region, as well as consistently high GDP growth (around 3-4% annually over the past decade, although prior to that it experienced a few years of double digit growth), much of this comes from mining and oil (World Development Indicators). Angola’s existence as one of the larger oil states in the region leaves it impervious to many of the liberal political pressures of the international community; instead it experiences high corruption and extensive patronage aimed at a small class of elites which prop up opaque political institutions (Hanson 2008).

**Firm-level comparison.** The primary focus of this section empirically is a comparison of the characteristics of Namibian and Angolan firms, aiming to draw some causal inference with regard to how domestic policies affect firm-level exporting behavior. We can consider Namibia and Angola relatively similar cases in which firms in one country operate under the treatment of democratic institutions, while those in the other do not.

Namibia in 2006, 26 years after its civil war and independence, had a startup/export cost ratio of 0.98, indicating that its processes for starting a business and those for a business exporting goods are of a highly comparable level of complexity. This remained quite stable over the years, with the country scoring roughly in the 60th percentile for each category: this translates into business startup that required 10 procedures, 66-95 days, and just under one-fifth of annual income per capita, while exporting required the completion of eight documents, 24 days, and $16-1800 per container shipped (World Bank Doing Business Reports).

In Angola in 2010, 35 years after the conclusion of its first civil war and independence, and eight years after its recidivism, the startup/export cost ratio was 2.01, indicating that it was approximately twice as complex and costly to export than to enter the domestic market. In the
50th percentile for startup, it took eight procedures, 66 days, and 150 percent of annual per capita income to create a business in the domestic market, while, in the 25th percentile for exporting, it required nine documents, 65 days, and $2050 to ship a container across international borders (World Bank Doing Business Reports).

In a series of two-tailed t-tests, I determine the differences in average productivity levels among D-type and X-type firms in each country, as well as the difference in average productivity levels between both countries’ X-type firms. Per much of the NNTT literature, productivity is defined as output (total sales) over size (number of employees), logged. Sales are reported in the World Bank Enterprise Surveys in local currency units—Namibian Dollars and Angolan Kwanza—which I convert to USD based on the end of June exchange rate, as the period from late June to early July represents the median and modal month of survey responses in both countries. Figure 4a depicts the average productivity levels of domestic and exporting firms in Namibia, while Figure 4b represents average productivity levels of domestic and exporting firms in Angola.

A p-value of 0.0012 indicates that the average productivity level of exporting firms in Namibia is significantly higher than that of the country’s domestic firms, while a p-value of
0.844 indicates that the difference in average productivity levels among Angola’s exporting and domestic firms is not statistically different from zero. This reiterates at a different level of analysis the surprising finding from Chapter 2, wherein productivity is not a significant predictor of export orientation among firms in non-democratic settings. With the more equivalent regulations on entry into domestic and export markets that democracies like Namibia impose, firms are able to select into and out of their D-type or X-type status based on trade costs and their widely varied levels of productivity. The stark division between average productivity levels would seem to suggest that this regulatory configuration maximizes gains from trade via allocative efficiency, with productivity concentrated in firms engaged in trade across borders. In non-democratic countries like Angola, where the welfare demands of a broad consituency are not essential to incumbents’ success, disproportionately high market entry barriers keep potential X-type firms in the domestic market, and potential D-type firms out. The productivity levels of X-type and D-type firms in Angola are not statistically different, indicating that the Angolan economy does not reap high gains from trade via allocative efficiency, which would occur by grouping significantly more productive firms into the X-type category.

The average productivity level among Angolan exporters also appears higher than average productivity among Namibian exporters. Democracies, whose elected officials seek widespread economic welfare to ensure their continued authority, seek to lower the threshold at which firms can productively engage in export markets, whereas non-democratic officials have no need to make exporting easier, and may in fact gain from increasing its complexity through resource capture at various stages in the exporting process. Taken in conjunction with Figures 4a-b, these findings suggest that non-democracies’ implementation of disproportionately rigorous export procedures does two things: 1) it fails to incentivize movement into and out of
markets that might generate greater gains from trade via allocative efficiency, and 2) it floods the domestic market with D-type firms, thus creating a special interest channel that lobbies overwhelmingly for protectionist politics.

4.4 Conclusion

NNTT’s assertion that firms vary along dimensions that systematically determine whether or not they can afford to export generates implications that firms hold heterogeneous preferences on trade policy. Countries with more exporting firms can expect to face a special interest channel that is largely pro-free trade, while countries with mainly domestically-oriented firms experience stronger demands for protectionism. This paper has proposed and tested the idea that political institutions theoretically precede the composition of free trade versus protectionist voices in the special interest channel.

As they are beholden to interests from very different winning coalitions, democratic and non-democratic regimes face incentives to implement various configurations of market regulations. NNTT’s heterogeneous firms insight also has implications for an additional source of welfare gains from trade, through the reallocation of labor into and out of domestic (D-type) markets and export (X-type) markets, shifting the average productivity levels of each such that a more productive D-type firm crossing the threshold into X-markets shifts the average productivity of the D-market down and that of the X-market up. Democratic officials, reliant on a large winning coalition should seek to maximize these gains by making movement into and out of D- and X-markets relatively simple, whereas non-democratic officials stand to gain less by improving the economic lot of a majority of the country, and instead benefit more from implementing complex market entry and exit procedures that provide them opportunities for resource capture.
I tested and found support for these expected relationships using cross-national survey data from the World Bank Enterprise Surveys, as well as conducting a firm-level analysis through a most similar case design. The country-level large-N analyses revealed that 1) there is a positive statistical association between political transparency and percent of exporting firms; 2) while non-democracies tend to have more regulations on entry into both the domestic and the export market, barriers to entry into export markets are disproportionately more complex; and 3) when controlling for these market entry policies, the statistical relationship between regime type and exporter percentage is washed out. These tests indicate that, to the extent that more or less transparent regimes systematically face different proportions of liberal versus protectionist interests from firms, the causal mechanism is a policy decision focused on market entry and exit.

In the firm level analysis, I compared Angola and Namibia, two large, southwest African countries with comparable histories. Both countries were colonized to some degree by western European empires, and while Angola—as an extractive colony—was not really given any institutional support by its colonizers, Namibia was actually given bad institutions fostering large racial and socioeconomic divisions. Following civil wars for independence led by Marxist-oriented paramilitary groups, both countries shifted away from Marxist ideologies and toward new systems of government. Despite Namibia’s divisive institutions inherited from European colonizers, they built up a strong democratic regime with relatively free and fair elections and peaceful transitions of power. Angola, fueled by a rentier economy, had little incentive to do so and is one of the most politically opaque nations in the region.

Following the trends borne out in the large-N analysis, the Namibian government implements regulations that make participation in D-market and X-markets relatively easier than the Angolan government does, but the Angolan government’s regulations on exporting make X-
type participation twice as difficult as D-type participation. This floods the Angolan market with D-type firms and minimizes the difference in average productivity levels between D-type and X-type firms. By contrast, there is a significant difference in average productivity levels of Namibian D-type and X-type firms, highlighting gains from trade via reallocation of productivity. Additionally, these firm-level analyses reveal a much lower productivity threshold to exporting in Namibia than Angola, which means democratic Namibia should not face nearly as much protectionist pressure from firms as Angola.

I have presented evidence that regime type corresponds to domestic firms’ ability to engage with the international market, which in turn changes the composition of the trade policy lobbying arena. This leads to two major conclusions. First, democracies’ lower barriers to exporting flood their domestic special interest channel with firms pushing for freer trade; this adds a plausible link in the causal process by which political and economic liberalism are related. Second, it suggests that the political legitimacy conferred by democracy is associated with more firm-level competition in international trade, thereby bolstering the legitimacy of the market.
5. CONCLUSION

5.1 Main Findings of the Dissertation

In this three-paper dissertation I have provided a test of several core assumptions of New New Trade Theory (NNTT) in a more globally representative sample, and then have leveraged cross-national variation in the proportion of exporting firms relative to import-competing ones in order to explain trade policy outcomes.

NNTT’s focus on firm heterogeneity and the characteristics of exporters constitutes a huge theoretical contribution to our understanding of trade flows, and also has implications for trade policy, if firms hold—and lobby for—different preferences based on their export orientation. However, I reviewed previous empirical assessments of the relationship between firm-level traits such as productivity, size, and innovation and firms’ participation in export markets, arguing that support for the theory was based too heavily on single-country case studies which disproportionately represented economically advanced and politically open countries. These could not broadly characterize the relationship between such traits and export orientation worldwide, and did not lend themselves to comparisons of firm behavior across domestic contexts, as the methodology was often not comparable between studies.

In Chapter 2 I made a case for pooling firm-level data from the World Bank Enterprise Surveys, and used these data to assess the global generalizability of NNTT arguments. These pooled data, representing firms from approximately 150 countries between 2002 and 2017, broadly confirmed the expected relationships between firm-level traits and export orientation, but also drew attention to the role of domestic factors such as political freedoms, size of the domestic economy, and geography. While firm-level traits were, as expected, strong determinants of a firm’s export orientation, firms were also significantly more likely to export when they operate
in countries with more bordering countries, because they are surrounded by high demand from foreign markets; they were less likely to export when they operate in countries with more geographic area, because distance to foreign markets is farther; and they were less likely to export when they operate in wealthier countries, because domestic demand is high enough to accommodate a larger proportion of domestically-oriented firms. These domestic variables explained why the United States’ reported four percent exporting firms—from which scholars have drawn the stylized fact that exporting is extremely rare—might actually be a lower bound rather than the global norm.

Additionally, Chapter 2’s firm-level analyses that take domestic context into account demonstrated that, while NNTT’s assumptions about the role of productivity and exporting generally hold up in a global sample, there are some caveats to these relationships based on economic and political factors. In line with the insight that firms in developing countries are, on average, less innovative by virtue of the countries’ greater distance from the global technological frontier, I found that developing a new or improved product or service did not have as strong an effect on export orientation in developing countries as it did in wealthier ones. More importantly, while the previously-determined strong relationship between productivity and export orientation was confirmed in a sample of firms operating in democratic countries, productivity was not a statistically significant determinant of export orientation among firms operating in non-democracies.

Stemming from the Chapter 2 finding of widespread cross-national variation in the proportion of firms exporting, I argued in Chapter 3 that the percentage of export-oriented firms relative to domestically-oriented firms within a country affected the restrictiveness of its trade policy. Export-oriented firms benefit from lower trade barriers, as they frequently import
intermediate inputs, so they lobby policymakers to reduce the costs of trade. By contrast, import-competing firms are hurt by greater trade policy openness, as this increases their competition with foreign goods, so they lobby policymakers for protection. In Chapter 3 I proposed that the overall restrictiveness of a country’s trade policy corresponded to the percentage of exporting firms relative to import-competing ones lobbying policymakers within a special interest channel.

I found that trade policy was most restrictive with a very low percentage of exporting firms and, counterintuitively, with a very high percentage of exporting firms. I demonstrated that this trend was attributable to the different levels of influence over policymakers that groups of firms felt as the composition of exporters and import-competers in the special interest channel changed. Productive firms and exporting ones felt they had less influence over policymakers when the special interest channel was dominated by import-competing firms demanding protection. Productive firms felt they had more influence over policymakers with a moderate proportion of exporting firms in the special interest channel, because exporters and highly productive domestic firms alike lobbied to bring trade costs down. With high proportions of exporting firms—approaching 50 percent or more—productive firms again felt less influential, as exporters fearing increased competition began to use higher costs of trade to block the entry of productive domestic firms into export markets. NNTT’s observation that industries can be comprised of both exporters and import-competers paved the way for this more nuanced understanding of the corporate interests opposed to and in favor of trade policy openness.

Chapter 4 analyzed how domestic political institutions affected the composition of firm preferences on trade policy in the special interest channel, looking at policies that made it easier or harder for productive firms to sort themselves into export markets. Assuming that politicians in any regime type seek office retention, I focused on the different incentives they face based on
the inclusivity of their political institutions. Democratic leaders, beholden to a broad
county, seek to maximize economic welfare, while non-democratic leaders stay in power
by providing private goods to a smaller political elite, and may actually be harmed by rising
economic power within society.

NNTT’s model of heterogeneous firms engaging in international trade suggests an
additional parameter for efficiency gains from trade as more productive firms move into export
markets, but I argued that the realization of these gains should be contingent upon firms actually
being able to sort themselves into export markets on the basis of their productivity, which is not
uniform across political contexts. While democrats, incentivized by broader societal gains,
implement market entry regulations such that the costs of firm entry into domestic markets and
into export markets are relatively comparable, non-democratic leaders may engage in rent-
seeking behavior that pushes them toward disproportionately high barriers to entry into export
markets. These policy configurations, in turn, shape the percentage of exporting firms within an
economy.

5.2 Contributions to the Literature

This dissertation contributed to various literatures in political science, including debates
over the formation of firms’ preferences on trade policy, their influence in the policymaking
process, political incentives for regulating markets, and the mechanism through which
democratic politics are associated with more liberal economic policies.

First, previous characterizations of firms’ preferences on trade grouped firms broadly by
industries, assuming that industries with a comparative advantage uniformly preferred more
openness to trade while comparative disadvantage industries uniformly demanded protection.
Using a NNTT framework accounting for the vast heterogeneity of firms across and within
industries, I have posited that firms’ preferences for raised or reduced trade costs depend on their productivity.

Second, firms’ influence on policy waxes and wanes as the composition of firms within the special interest channel changes. Exporters and domestic firms on the cusp of exporting alike may prefer freer trade, so that they can increase their productivity by virtue of falling trade costs, but they only succeed in seeing these policies enacted when there are moderate levels of exporters within a country. At low levels of exporting firms, the protectionist demand from import-competitors is too strong, and at high levels of exporting firms, exporters are influential but their preferred policy configuration may instead change to maintaining the status quo to avoid increased competition from firms who could become productive enough to export, given lower trade barriers.

Third, democratic and autocratic leaders implement regulations on entry to domestic and export markets in systematically different ways, according to their different strategies for office retention. Seeking societal economic welfare gains, democratic leaders impose comparable barriers on domestic market entry and export market entry, so that productive firms can sort themselves into export markets with relative ease. By contrast, non-democratic leaders impose disproportionately high barriers to export market entry as a way of obtaining rents to provide private goods to a smaller political elite, and these barriers keep productive firms from exporting. This suggests that some governments engage in market regulation both for benevolent purposes and others for self-serving ones.

Fourth, and most importantly, this dissertation has provided an alternate causal story for the observed correlation between liberal politics and liberal economics, or between democratic political institutions and open markets. Having demonstrated that a voter-driven theory of trade
policy openness faces significant challenges to its plausibility, I have accounted for democracies’ lower trade barriers through a firm-driven mechanism. Democrats’ tendency to impose comparable costs to domestic and export market entry allows productive firms to move into export markets, while autocrats’ disproportionately high export market regulations depress the proportion of firms that can export. This accounts for the surprising finding that productivity does not correlate with export orientation among firms in non-democracies. It also explains how special interest channels in democracies come to be comprised of exporters and import-competers in such a way as to maximize support for trade policy liberalization.

5.3 Remaining Questions

This dissertation has focused on firms’ preferences on, and influence over, trade policy based on their productivity and export orientation, in variable domestic contexts. Due to the recency of the development of NNTT, and especially of its application to political science, there is considerable room for this research agenda to grow.

Perhaps one of the most involved questions this dissertation leaves unanswered is how firms’ productivity and export orientation affect their preferences on other economic policies, such as those concerning exchange rate politics or labor migration. There are obvious limitations posed by the coverage of topics in the World Bank Enterprise Surveys, but we might expect more internationally-oriented firms to prefer exchange rate stability while less productive domestically-oriented ones would benefit more from domestic monetary policy autonomy (individual-level evidence in line with this is found in Bearce and Tuxhorn 2017).

Similarly, we might expect that more productive firms, and especially ones who are currently domestically-oriented but close to the productivity threshold of exporters, would hold preferences for greater labor migration, so as to lower their labor costs and increase their profit
margin. Yet while the default expectation has been that firms uniformly prefer cheaper foreign labor, firm-level variation in characteristics such as degree of informal market competition or skill intensity of production.

Finally, this dissertation leaves unanswered questions about additional domestic contexts in which we would expect firm influence on trade policy to vary. In particular, there are connections to be made with the rich research on electoral business cycles. Policymakers in democracies might give more weight to particular types of firms, or particular demands of firms, in the run-up to an election in democracies, but less formulaic or stable autocratic transitions of power may leave firms with a less clear expectation of when leaders would court them with favorable policies. Such variation would be consistent with the central finding of this dissertation, which is that differences in the domestic context in which firms operate may be just as important as the differences among firms themselves.
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