THREE ESSAYS ON CATEGORIES IN FINANCIAL MARKETS

by

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A thesis submitted in partial fulfillment of the requirements of the degree of

Doctor of Philosophy

in

Strategic Management and Organization

Faculty of Business
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ABSTRACT

Paper 1 Although recent scholarship had faulted the constraining views of prior categories studies, there is no systematic theoretical analysis of how category membership influences the actions and reactions of categorized firms and their audiences. While previous arguments suggested that audiences' penalties imposed on category spanners constrained actions of categorized firms, many studies have shown that market actors often span categories and, in some cases, their actions met with audiences' approval. In this paper, I argue that these inconsistencies are partly because of the missing links between categorical cognitions and category-based actions; the missing links are the affective consequences of categorical cognitions. I propose stereotypes as complementary categorical cognitions with affective consequences. Based on theories of stereotypes, I show that audiences and categorized actors display different types of emotions towards different categorical stereotypes and that these emotions lead to different types of actions.

Paper 2 Faced with a crippling foreign currency shortage, the Central Bank of Nigeria (CBN) matched different foreign currency inflows to different types of foreign currency demands. In this paper, I conceptualize the outcomes of CBN policies in the foreign currency markets as dynamic categorizations and behavioral earmarking in financial markets. However, because other actors in the market cognitively earmarked their foreign currency positions with estimates different from CBN valuations, CBN behavioral earmarking exacerbated the crisis in the foreign currency markets leading to a breakdown of market mechanisms as well as fragmentation of the foreign currency markets in Nigeria.

Paper 3 In this paper, I theorize and test the utilities of stereotype-based categorization in financial markets. The paper shows that stereotypical perceptions of foreign firms' countries of origin influence their evaluations on major stock exchanges in the United States. While perceptions of

warmth stereotypes seem to boost foreign firm valuations, perceptions of competence stereotypes seem to depress foreign firm valuations. I discuss the implications of these findings for organization categories literature and sociology of financial markets

PREFACE

This thesis is an original work of Abiodun Ige. The research project, of which this thesis is a part, received research 2 ethic approvals from the University of Alberta Research Ethics Board,

1. “Three Essays on Cross-listing from Emerging Market” No: Pro00062814, March 4, 2016
2. “Survey of United States Citizens perception of citizen of other countries” No: Pro00082989, August 21, 2018

ACKNOWLEDGEMENT

I am deeply grateful to The Almighty God of Abraham, Isaac, and Jacob for His help and enablement. Lord Jesus Christ, I thank you for your love and sacrifice for my sins. My sincerest appreciation goes to my supervisor, teaching mentor, coauthor, and big brother rolled into one- Professor Marvin Washington. I could not have made it without you. You were patient, savvy, and knows when to apply the right amount of pressure. For talking me out of my decision to quit the PhD program in my darkest hour, you hold a very special place in my heart. I am also indebted to members of my committee - Professor Mike Lounsbury and Professor Vern Glaser. Your willingness to engage my work and provide critiques that ensured I progressed through the PhD process endeared you to my heart. This would have been impossible without you.

I was privileged to be in a supportive environment at the Alberta School of Business. I appreciate the support and encouragement extended to me by different members of faculties, administrators, and PhD students in the school. I am particularly grateful to Jeanette, Debbie, Dolores, Melissa, Beth, Helen, and many other administrative staff in the Alberta School of Business. I also want to reserve special thanks for Professor David Deephouse for his help and support during my PhD program. In addition, I will like to extend sincere appreciation to Mr. Mark Robinson for making the Mark Robinson International Perspective PhD Award available at the Alberta School of Business; without Mr. Robinson generous donations, I would not have been able to complete this dissertation. I appreciate many friendships I formed with PhD students during my stay at Alberta School of Business. Youngbin, Joseph, Evelyn, Shilo, Chang, Ryan and many PhD students made my PhD sojourn more bearable.

Yoruba people will say, eniyan o dara jasho lo (people protect more than clothes). I will like to dedicate this work to my dear parents, Deacon Josiah Oladunjoye Ige and Dr. Mercy Abiola Ige for introducing me to the Lord Jesus Christ and providing solid academic and moral foundations for me to thrive; I could not have made a better choice. I will like to appreciate my wife, Jumoke (Jay) Abiodun-Ige for her help and support during this period. She helped me cover the home front by taking care of our kids while I labored to achieve this lifelong dream. My kids Excel, Ola, and Boluwatife (deceased) were my inspirations; I think of you all the time and often ask myself if it is worth it leaving you at home to pursue this lifelong dream. I hope you will understand my sacrifice as you grow older. I love you too much. To my family in Edmonton, Dr. Oye Soyege, Adeleye Adebusuyi, and the whole gang at the life team, Millwood Assembly, you were there for me during this period (mama ri yin ba, in Jesus Name). I will like to thank my brothers, Oladunmoye (deceased), Iwaloye, Tunjoye, Timothy, John, Olayemi and my extended family far and near. Thank you all

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Chapter I

Introduction

Categories are ubiquitous in social life; scholars argue that this is because cognitively bounded social actors must group similar stimuli or risk being overwhelmed by the plethora of stimuli in their environments. Markets are among the social arenas where these categories facilitate understanding of the various actions and reactions of actors and audiences. Borrowing from category scholarship in cognitive psychology and sociology, organization theorists and strategy scholars have argued for a category-based view of markets; that is, audiences interpret the actions of organizations in markets through the network of focal actors' categories (Cattani, Porac, and Thomas 2017; Vergne and Wry 2014). Zuckerman (1999, 2000) introduced the sociological arguments regarding categories in markets when he claimed that important evaluators overlook market actors that do not conform to established market groups. His arguments form the basis for what is known as a categorical imperative in organization literature; that is, because actors that do not conform to established categories are ignored, categorized actors conform to legitimized categories (Zuckerman 1999, 2000).

Category literature in organization studies was initially anchored on the prototype view of categories (Rosch 1973; Vergne and Wry 2014). Recent studies have questioned the adequacy of prototype arguments in some market contexts; scholars have challenged the lack of dynamism in these perspectives of category. Studies show that audiences' goals often motivate them to categorize objects that can hardly be represented by a similar prototype (Durand, Nina, and Tyllstrom 2017; Durand and Paolella 2013). For instance, a hungry person can group beef and vegetables together as food. Audiences' theories of causation also play a vital role in the categorization process (Diestre and Rajagopalan 2014; Paolella and Durand 2016). Diestre and

Rajagopalan (2014) found that following environmental accidents involving sulfuric acid, investors discounted the market values of manufacturers whose inputs included sulfuric acid; that is, investors created a new category based on the risk posed by the chemical. These new perspectives on market categories call for a more contextualized understanding of how categories influence market outcomes, a research agenda christened "social processes of categorization" (Durand et al., 2017; Glynn and Navis, 2013). However, research into these social processes of categorization is just beginning (Durand et al., 2017).

Durand et al., (2017) identified various avenues for further development of social processes of categorization and proposed five broad ways in which social processes can shape categorization. Firstly, actors' interests and goals vary within and across predefined groups. The prototype view tends to take the homogeneity of actors within the same group as well as the impartiality of audiences as given. However, contextual factors might render these assumptions irrelevant or inapplicable. Secondly, the authors questioned the stability of categorized entities. The prototype view suggests the relative durability of prototypes because their material features are stable. However, categories are usually combinations of material and discursive features. While the material features might be stable, the discursive features are subject to intense interrogations and social evaluations that can morph over time. Thirdly, the social process of categorization should include what constitutes classification. Research into the acts of categorization is still in its infancy. Institutional contexts influence categorization in multiple ways; some categories do not exist or are stigmatized because of the institutional settings in which they are embedded. Changes in institutional settings can result in the emergence of new groups and the transformation of competition bases within and between categories. Lastly, temporality shapes how categories affect market outcomes. Prior studies have agreed that the categorical imperative argument is moderated by stages of category developments as the evaluations of new categories tend to be more lenient than established ones. Durand et al., (2017) argued that future theorizing addressing to address these dimensions of social processes of categorization will contribute to understanding the importance of categories in markets.

Market categories influence the outcomes and actions of organizations and their audiences. In a nutshell, scholars have argued that categorization shapes cognitions; these cognitions influence the actions of audiences and the reactions of the categorized entities. However, studies have shown the relatively weak links between cognitions and actions; affects, such as emotions, mood states, and arousals, link cognitions to actions (Fiske et al. 2002; Hamilton and Mackie 1993; Harmeling, Magnusson, and Singh 2015). Present theorizing about categories has ignored the affective consequences of categories; this deficiency in theorizing means that the mechanisms through which categories influence actions are under-theorized in organization theory.

A significant limitation of the organization category literature is its over-reliance on the prototype view of categories (Durand et al., 2017; Vergne and Wry 2014). The prototype view argument is based on similarities or other comparisons to the prototypical members of the category. While previous studies have shown the limitations of the prototype view, none have addressed the challenges related to the cognitive links to categorical actions. This is partly because of the theoretical perspectives taken by the scholars: cognitive psychology and sociology. The social psychology discourse on categories incorporates the stereotype view. Stereotypes are informational contents of categories (Bodenhausen, Kang, and Peery 2012). Unlike prototypes, stereotypes are not affectively neutral; they invoke emotions that lead to biased actions toward the stereotyped entities (Cuddy, Fiske, and Glick 2008; Dovidio et al. 2010). Similarly, audiences are not affectively neutral toward the membership of categories; that is, exemplars of categories can provoke negative audience responses because of the emotion invoked by the stereotype associated with these categories (Cuddy et al., 2008; Delmestri and Greenwood 2016; Vergne 2012). One of the central tasks of this dissertation is to introduce the stereotype view of category to organization theory. In addition, I explore how contexts impact the outcomes of categorizations in markets. The research questions of this dissertation are the following:

1. How do stereotypes influence firms' and audiences' responses to categorization?
2. How do actors' relational and cognitive earmarkings result in dynamic recategorization of buyers, sellers, and market arenas in the Nigerian foreign currency markets?
3. How do stereotypes associated with firms' countries of origins (COOs) influence the firms' capital market valuations?

"By most historical accounts, Lippmann (1922) introduced the term 'stereotypes' to refer to the typical picture that comes to mind when thinking about a particular social group" (Dovidio et al. 2010, 7). Stereotypes are the cognitive schema that social actors deploy to interpret information about different social groups. They are the audiences' beliefs about members of a social group (Dovidio et al. 2010). Research in social psychology has uncovered the contents of stereotypes to be warmth and competence (Dovidio et al. 2010; Fiske et al. 2002). Warmth captures the general feeling of friendliness and accommodation toward members of the social category. Conversely, competence relates to the group members' perceived ability to achieve desired goals and objectives. Research shows that competition is the antecedent of warmth; that is, non-competitive outgroups are stereotyped as warm (Cuddy, Fiske, and Glick 2007). Perceived status is the antecedent of competence; high-status social groups are stereotyped as competent (Cuddy et al., 2007). Stereotypes about social categories vary along warmth and competence dimensions. Stereotypes not only shape perceptions but also influence emotional reactions toward members of social categories. The intersections of warm and competent stereotypes arouse different emotions toward the members of different categories (Cuddy et al., 2008).

Cognitive affective theories, which integrate affective processes with cognitive processes, propose that emotions are products of cognitive expectations; for instance, individuals can become upset when their expectations about situations are violated (Harmeling et al., 2015). The theories proposed that cognitive appraisals are the most important antecedents of emotions (Harmeling et al., 2015). Emotional responses to cognitive expectations lead to different biased reactions; that is, cognitions cue affects, which, in turn, cue actions (Cuddy et al., 2008; Harmeling et al., 2015; Menges and Kilduff, 2015). Prototypes and stereotypes are important categorical cognitions. What is missing in the organization literature on categories are the affective implications of these categorical cognitions. Integrations of affects and cognitions facilitate a better understanding of social actions (Hamilton and Mackie 1993). Studies have shown that, just as there are group-based cognitions, there are group-based affects (Hamilton and Mackie 1993; Menges and Kilduff 2015). The interplay of group-based affects and group-based cognitions produces more robust explanations for intergroup actions. Different affects also lead to different actions. For instance, while anger usually cues active retaliatory actions, fear cues passive withdrawal actions (Harmeling et al., 2015). Incorporating intergroup affects into the organization literature on categories will lead to a more nuanced understanding of the roles of categories in markets.

Prototypes facilitate within-category comparisons; that is, audiences use the prototype to judge how similar a member is to the exemplar of the category. Since organization category literature is partially based on the prototypical argument, many studies in this literature address within-category comparison. However, categories are also bases for comparing actors and artifacts across groups, that is, cross-category comparisons (Sharkey 2014). Categories create differences between entities, and those differences often become the basis of comparison between members of different categories (Cuddy et al., 2008; Sharkey 2014). Very few studies in organization research have addressed cross-category comparison (Sharkey 2014). Prototypes, by their very definition, are not amenable to cross-category comparisons; it would be challenging to compare a prototypical avian family member to a prototypical feline family member. However, there are many market situations where audiences may need to compare actors and artifacts that belong to different categories. For instance, buyers dealing with new suppliers from different countries need to examine these suppliers against various criteria, including how the suppliers' countries of origin are categorized, or stereotyped. Stereotype-based categories are amenable to cross-category comparison because audiences can hold comparable stereotypes about different categories of actors and artifacts. Some of these stereotypes are related to stereotypes of adjacent categories. For instance, stereotypes about non-profit firms are partly based on their comparison with for-profit firms (Aaker, Vohs, and Mogilner 2010). Adopting stereotype-based categorization will facilitate cross-category comparisons and open a new vista for category research.

While scholars claim that categories are ubiquitous in markets, they usually focus on small slivers of the groups in the contexts they study. For instance, in many studies, focal actors are categorized while their audiences are treated as homogenous (or the differences among audiences are treated as secondary) (Durand et al., 2017). While this may be due to the limitations of empirical tools used in such studies, it is also partly because of the boundaries of the prototype as the basis for cross-category comparisons. Prototypes are difficult to compare; therefore, it behooves the researcher to limit the number of prototypes at play. However, as many studies have testified, audience categories are equally important (Pontikes 2012; Wry, Lounsbury, and Jennings 2014). Categorized actors categorize their audiences. No organization treats its audiences as though they are alike; customers are different from investors, who are, in turn, different from employees. Most studies in the category literature seem to suggest that the categorizations in markets are one-way endeavors, i.e., audiences categorize products and producers. However, the reverse is also the case. In any market context, categorization is dynamic; for instance, investors classify organizations, and organizations classify investors. These "back and forth" categorizations are missing in the current organization literature of category. I address this dynamic nature of categorization in this dissertation (Whitehead 2009). The papers in this dissertation examine how stereotypes associated with categories impact the actions of various market actors. The dissertation borrows extensively from the social psychology perspective of categories to contribute to the scholarly understanding of organization categories (Bodenhausen et al., 2012; Cuddy et al., 2007; Fiske et al. 2002). Most of the social psychology theories are premised on person-based categories; however, following prior traditions in organization theory, one of the contributions of the present work is to translate the assumptions and models of these social psychology theories into organization theory. In addition, I draw extensively on consumer research literature in marketing to provide justifications for some of my arguments (Aaker et al., 2010; Antonetti and Maklan 2016).

Summaries of Three Papers

Paper 1

The first paper in this dissertation introduces stereotype to the organization literature on categories. I argue that incorporating stereotypes will contribute substantially to ongoing organization discourses on categories in markets. Categories shape perception. They have both material and discursive features; while prototypes capture material features, stereotypes capture discursive features. Although material features might be relatively stable across audiences, discursive features vary considerably. Stereotypes are not only information about social categories but are also lenses for viewing and interpreting the actions and outcomes of category members; they capture audiences' dispositions toward outgroup members. Recent scholarship in organization category literature has called for contextualizing the roles of categories in markets. One of the ways in which contexts can influence categories is by activating the stereotypes associated with the categories. Because actors usually belong to different social groups, audiences often rely on limited numbers of stereotypes when evaluating the actions of focal actors. Social contexts might activate some stereotypes at the expense of others. The primary purpose of this study is to show how categorical stereotypes can contribute to the ongoing discourses in organization category literature as well as chart new directions for fruitful theorizing on the roles of categories in markets.

Unlike prototypes, stereotypes are not affectively neutral (Cuddy et al., 2008; Hamilton and Mackie, 1993). Initially, stereotypes were conceptualized solely as cognitive properties of categories; the affective revolution in social sciences prodded scholars to re-examine affective consequences of stereotyping (Hamilton and Mackie 1993). The Stereotype Content Model (SCM), proposed by Susan Fiske and her coauthors, identified the two orthogonal dimensions of stereotypes to be warmth and competence (Cuddy et al., 2008). Outgroups stereotyped as warm are considered friendly, cooperative, and non-threatening; conversely, categories stereotyped as competent are viewed as high-status and effective. Proponents of the SCM argue that the warmth and competence measures capture most of the variations explained by stereotypes (Cuddy et al., 2008; Dovidio et al. 2010; Fiske et al. 2002). Based on the SCM, social groups can be stereotyped as warm and competent, cold and incompetent, warm but incompetent, or cold but competent (Cuddy et al., 2007). In addition, the different combinations of warmth and competence stereotypes generate different affects. Groups stereotyped as warm and competent are admired by their audiences while groups stereotyped as cold and incompetent are despised. Warm but incompetent groups are pitied while cold but competent groups are envied. These discreet mappings of group-based stereotypes to group-level affects are further explored in the study. In addition, relying on the Behavior from Intergroup Affects and Stereotypes (BIAS) map, I theorize propositions connecting these affective implications to the different category-based actions and responses.

This study contributes to the literature in several ways. Firstly, it introduces an alternative conceptualization of organization categories. The prototype view of category has been the dominant view in organization theory. Recently, scholars have questioned the applicability of the prototype view to some market situations. Stereotypes are categorical cognitions that shape information processing among audiences. Secondly, the study sheds light on how contexts mediate categorization and market outcomes. Social contexts can influence operations of categories in markets by priming some stereotypes. While there are multiple ways to categorize organization, social contexts make categorical stereotypes along some dimensions more salient than the others. Thirdly, the study introduces affective implications of categories. Like previous theories of macro-organization behavior, the category literature has been silent on the affective outcomes of the cognitive basis of its core arguments (Voronov and Vince 2012). The present study explores how categorical stereotypes generate affects regarding members of different categories. Finally, the study examines the links between categorical cognition and actions in markets. The paper suggests that the absence of affects in the arguments that link cognitions to actions in the categorical literature means that the organization category theory of action is under-theorized. I explore the affective components of categories and connect them with strategic actions toward members of different firm groups.

Paper 2

In the second paper in this dissertation, I examine the activities of a central bank in the foreign currency markets of a large developing country. Usually, central banks are the single most important economic organizations and institutions in national money markets (Polillo and Guillen 2005; Zald and Lounsbury 2010). Central banks independence from elected officials often underscore their importance to national economic well-being (Cargill 2016; Polillo and Guillen 2005). In money markets, such as foreign currency markets, the commodities are monies. Monies are the most standardized commodities in the world; therefore, the influence of audience categorization should be minimal in money markets. Sociologists of money have argued that audiences categorize monies based on different social meanings; earmarking, a type of categorization based on the source, meaning, or use of monies, influences how social actors value money. For instance, dirty monies from illicit activities are often treated differently from clean, hard-earned incomes (Zelizer 1989, 1997). While prior studies have examined the roles of earmarking in informal settings such as households, few studies have examined the operations of earmarking monies in economic markets such as foreign currency markets. In the case examined in the paper, I show how central bank policies led to the earmarking of monies in the foreign currency market.

In her studies of domestic monies, Viviana Zelizer argued that different actors in the household categorize monies in socially meaningful ways (Zelizer 1989, 1997). The author showed that monies from different sources often have different meanings and, consequently, different uses. For instance, husbands' paychecks carry a different connotation than wives' pin monies; similarly, dirty monies are seldom treated as equivalent to hard-earned clean money, hence, the vast underground financial infrastructures for money laundering. While many studies of domestic and individual spending patterns found evidence backing Zelizer's earmarking arguments, very few studies have theorized and provided evidence on how earmarking works in formal economic situations. Another limitation of Zelizer's thesis from prior studies is the suggestion that earmarking is only meaningful in non-market monetary contexts; that is, markets have expunged non-market social meanings from money (Evans 2009). In this paper, I argue that by diverting foreign currencies from different sources to different markets, the Central Bank of Nigeria (CBN) practiced earmarking as official policies and that these earmarking policies affected the operations of the foreign exchange markets. In addition, I show that the structural characteristics of the Nigerian economic and political landscape constrained the actions of the CBN.

The CBN's decisions to peg exchange rates were similar to prior strategies of the Nigerian government for managing foreign currency crises (Ayogu 1997; Odubogun 1995). As in previous foreign currency crises, parallel markets for foreign currencies became more vibrant, and the differences between parallel market exchange rates and official exchange rates increased (Odubogun 1995; Owuru and Farayibi 2016). Unlike prior foreign currency crises, multiple exchange rates emerged partly due to the different policies of the CBN. The sharp increases in exchange rates in all foreign currency markets except the official markets led to higher inflation rates in the country (Essien, Uyaebo, and Omotosho 2017); considering inflation management as its primary responsibility, the CBN stepped up policy interventions (Best 2018). It categorized foreign currency inflows by their sources and channeled them to different markets. These markets had different exchange rates; that is, foreign currency inflows into Nigeria were concurrently exchanged for different quantities of local currencies depending on their sources and the markets where they were traded. This paper examines the CBN's actions in categorizing buyers and sellers in foreign currency markets and the reactions of other markets' stakeholders to these categorizations.

While studies have examined how actors categorize in markets, none theorized the impacts of market crises on process of categorization. Market crises prime different dimensions of categorization. Crises add new meanings to categories beyond their prototypical identities. I propose that audiences use stereotypes to delineate market categories during crises. Under these unusual conditions, categories can be stereotyped based on how they enable various audiences achieve their goals. During the currency crises in Nigeria, using its policy objectives, CBN stereotyped buyers, sellers, and sources of foreign currencies in the markets. Categories of actors and artifacts that facilitated CBN objectives were channeled to specialized market platforms. Conversely, sellers and buyers of foreign currencies stereotyped the foreign currency markets based on accessibility and exchange rates. These dynamic realignments of categories to objectives of market actors extend present understanding of market categories.

The paper contributes to the literature in two ways. Organizational and economic sociologists often claim that categories are ubiquitous in markets; however, they usually follow up this claim by studying one category in their empirical settings as if to say all other forms of categorization hold constant. Recently, scholars have called for moving beyond viewing categories as a cognitive construct to the social processes that underscore the dynamic nature of categorization (Durand et al., 2017; Glynn and Navis 2013). The present study shows categorization as a dynamic process. Faced with a debilitating decline in foreign currency inflow, the CBN balkanized economic activities in the country into different categories; it conferred preferential treatment on some categories of economic activities and barred other categories from participating in the official markets for foreign currencies. Secondly, the paper shows the process of earmarking in market settings (Evans 2009) and provides empirical demonstrations of earmarking as state policies and its effects on markets. Unlike the domestic earmarking in Zelizer's work, the earmarking observed in this study led to different market values of objectively similar dollar bills. Depending on the sources of foreign currencies and the markets for which they were earmarked by the CBN, the United States dollar exchanged for between 300 and 500 naira in Nigeria in October 2016. While the spreads between exchange rates in the different markets have reduced, these differences in exchange rates persist.

Paper 3

Markets are social constructs; they are nested in webs and systems of meanings. The high levels of opacity in markets and the limited rational capacity of boundedly rational actors constrain actors to rely on simplifying notions and conclusions in their market interactions. Categories are examples of these simplifying notions and conclusions. Prior studies of categories in markets arrange firms according to their products and market segments (Paolella and Durand 2016; Wry et al., 2014; Zuckerman 1999). However, products and market segments do not exhaust the bases for categorizations in markets. For instance, Diestre and Rajagopalan (2014) argued that following accidents involving a chemical, actors categorized publicly listed firms based on their use of the chemical, i.e., input-based categorization. Prior studies have shown that firms' countries of origin (COOs) are another base of categorization (Barbarossa et al. 2016; Chattalas, Kramer, and Takada 2008). Beyond imposing identities on organizations, COOs are idiosyncratically stereotyped. Stereotypes are categorical cognitions that influence actors' perceptions of members of different categories. Studies have shown that actors hold stereotypes of warmth and competence about countries and that these stereotypes are transferred to firms that call these countries home (Barbarossa et al. 2016; Halkias, Davvetas, and Diamantopoulos 2016). COO stereotypes are part of the information that market audiences can readily access and might shape their perceptions of the focal market actors. To the best of my knowledge, no study has examined the role of COO stereotypes in the functioning of major global equity exchanges. This paper examines how firms' COO stereotypes influence their valuations on the three major stock exchanges in the United States: the New York Stock Exchange (NYSE), NASDAQ, and NYSE American, formerly the American Stock Exchange and NYSE MKT. Equities of foreign firms constitute a growing proportion of listed and traded equities on the US exchanges (EY 2017). Scholars have examined what motivates firms to list their equities outside their home countries (Saudagaran 1988). In addition, many studies have investigated the costs and benefits of foreign equity listings (Karolyi 2012). However, the importance of nation-states' imprints on foreign firms in capital markets is under-researched (Filatotchev, Bell, and Rasheed 2016; Temouri, Drif, and Kumar 2016). Some studies focus on distance measures to explain the liability of foreignness that foreign firms experience in products and capital markets. Indicator variables such as differences in languages, legal traditions, and geographical distances capture the essence of these distance measures. Prior sociological analyses have argued that in embedded settings such as capital markets, market actors focus more on the legitimacy of the actions of other actors rather than an efficient, rational analysis of the fluid and often densely interconnected sets of actions (Zuckerman 1999, 2012). In such settings, institutionalized rules form the basis for evaluating financial instruments such as those of foreign firms. This study examines the institutional rules associated with listed foreign equities.

Foreign equity listings might operate differently from product markets' internationalization and local equity listings. Foreign listings of financial instruments entail a foray into factor markets, which function differently from product markets (Bell, Filatotchev, and Rasheed 2012; Filatotchev et al., 2016). The relationships between suppliers of production factors such as labor and capital and users of production factors are usually more complicated and enduring than the relationships between producers and consumers in product markets (Bell et al., 2012; Filatotchev et al., 2016). These dynamics might partly explain why capital markets are mediated. Locational disadvantages of both buyers and sellers in these markets amplify the importance of the mediating processes in listing foreign equities. It behooves scholarship to understand how mediators and investors perceive international financial instruments. While it is true that capital markets are becoming increasingly global, the proportion of equity raised from foreign capital markets is still relatively marginal; less than 10% of initial public offers occur outside the listing firms' home countries (EY 2017). The distinctive home biases of both investors and MNEs underscore the challenges of foreign listings as well as the differences between foreign listings on capital markets and foreign participations in product markets as well as local listings on capital markets.

The challenges associated with foreign equity listing might be due to COO stereotypes. Studies have shown the relationship between COO stereotypes and perceptions of products from different countries; however, to the best of my knowledge, no study has extrapolated the concept of COO stereotypes to financial markets. Stereotypes thrive more in environments with minimal repeated contacts between stereotyped populations and their audiences; the interactions between foreign listed companies and actors in local capital markets are more likely to engender stereotypes because of limited interactions, occasioned by geographical separations, between the two parties.

The paper contributes to the literature in two ways. Firstly, it theorizes countries of origin as the basis for firm categorization. In organization theory and strategic management literature, category studies rely mainly on industry and product segments as the bases for firm categorization. The present research contends that nation-states are cognitively and culturally distinct constructs; therefore, they can be bases for the socio-cognitive categorization of firms listing financial instruments on foreign equity exchanges. Secondly, the paper argues that firm-based categories are stereotyped. Recent studies of organization category acknowledge that category membership signals idiosyncratic information about members of the categories beyond prototypical purity (Delmestri and Greenwood 2016; Vergne 2012). Borrowing from the social psychology literature on stereotypes, I posit that firm-based categories are stereotyped; these stereotypes influence the stock market valuations of listed foreign equities.

Chapter II

Exploring Implications of Categories: Categorical Stereotypes in Organizational Research

Introduction

Firm and product categories shape social interactions in markets. In the last three decades, organizational scholars, especially organization theorists and strategic management scholars, have engaged categories as the basis for understanding market perceptions and behaviors (Delmestri and Greenwood 2016; Durand and Paolella 2013; Vergne 2012; Vergne and Wry 2014; Wry, Lounsbury, and Jennings 2014). Social actors categorize by stereotypes; that is, when actors group similar social phenomena, they also attach labels to them. While stereotypes about individuals and nationalities are well-explored in literature, little is known about the stereotypes of organization-based categories. Stereotypes of firm-based categories are relevant because they shape perceptions about the firms in these categories. For instance, high-tech firms that are not located in Silicon Valley might extend the Silicon Valley labels to describe themselves to interested audiences. However, in the wake of recent sexist stereotypes that were associated with Silicon Valley firms in the popular press, these technology firms, which are not located in the Valley and would have otherwise readily identified with compatriots there, might seek to create cognitive and affective distances from those Silicon Valley technology firms now labeled as stereotypically sexist.

The central thrust of category literature in organization studies is how categories shape the perceptions and actions of organizations and their audiences. Categories are socio-cognitive constructs; scholars have argued that categories, by shaping cognitions, influence the actions of firms and their audiences. However, the links between categorical cognitions and category-based actions are underspecified; that is, despite recent advancement in scholarly understanding of affective processes as important mediators and moderators of the relationships between cognitions and social actions, the category literature in organization theory has been silent on the affective consequences of categories in markets. By affective consequences of categories, I mean how organization categories create different emotions, motivations, and mood states among audiences and categorized actors (Hamilton and Mackie 1993). This neglect of affective processes might be partly due to the relative affective neutrality of organization theory's central categorical cognitions: prototypes. In this paper, I introduce stereotypes and their affective consequences as essential links between categorical-based perceptions and actions of categorized actors and audiences.

In this paper, I argue that audiences evaluate firm and product categories through the stereotype components of warmth and competence, and these evaluations influence the actions and reactions of categorized firms and their audiences in non-trivial ways. Recently, studies have highlighted the limitations of the prototype-based view of categories in many market situations (Durand et al., 2017; Glynn and Navis 2013; Paolella and Durand 2016). Scholars have argued that the prototype view of market categories is restrictive and does not capture many dynamics of categories in markets. Some scholars have proposed more contextualized views of organization groupings in markets, i.e., the social process of categorization (Durand et al., 2017). According to Durand et al., (2017), understanding differences in audiences' perceptions is one of the pillars of this social process of categorization. The prototype view of categorization assumes that audiences are impartial and judge solely on the prototypical integrity of different group members; however, audiences hold biases that can influence their perceptions. In this paper, I argue that stereotypes are important sources of audience bias that shape these audiences' evaluations of social groups and their members. Cuddy et al., (2008) argued that the warmth and competence components of stereotypes are the universal basis for perception. The warmth component captures the perceived friendliness of members of the focal categories toward the evaluating group. The competence component captures the perceived efficacy of the focal categories. The research question of this study is: how do stereotypes influence firms' and audiences' responses to categorization?

Prior studies have shown that some audiences penalize firms for spanning multiple categories while others do not. The bases for partitioning when and why audiences penalize category spanning have been the fodder for many rigorous scholarly works (Paolella and Durand 2016; Pontikes 2012; Vergne 2012; Wry et al., 2014). This is reminiscent of a similar theoretical conundrum in neo-institutional theory when scholars struggled to understand when and why some embedded actors maintain institutions while others disrupt or recreate them (Seo and Creed 2002). The links from socio-cognitive embeddedness to agency became the subject of scholarly debates among neo-institutional theory scholars. Recently, scholars have asserted that affective investments in institutions are the missing links between cognitive immersion and different agentic actions (Voronov and Vince 2012; Zietsma and Toubiana 2018).

Similarly, this paper argues that audiences are not effectively neutral about social categories; they display different emotions toward different social categories. Stereotypes are strong precursors of affects toward different categories. Stereotypes link the cognitive representations of categories to the affects toward these categories (Cuddy et al., 2008; Hamilton and Mackie 1993). I explore stereotypes as categorical cognitions with affective consequences. Furthermore, I argue that these affective consequences make some actions toward category members more likely than others.

Present organizational scholarship links categorical cognitions to firms' and audiences' actions.

Recent theoretical developments suggest that cognitive and affective processes interact to determine the behaviors of social actors (Hamilton and Mackie 1993; Harmeling et al., 2015). Studies have also shown that affects, rather than cognitions, are more proximal to social actions (Cuddy et al., 2008; Frijda 2016; Frijda, Kuipers, and ter Schure 1989). I extend this argument to the link between categorical cognitions and market actors' behaviors; that is, categorical cognitions interact with affective implications of categorization to determine behaviors in markets. Specifically, different combinations of warmth and competence stereotypes result in different affective outcomes; these affective outcomes make some patterns of actions toward members of different categories more likely than other actions. Similarly, the members of stereotyped groups act differently in response to the stereotypes attached to their social groups. While I do not go so far as to claim that stereotypes are the only link between category-based cognition and categorical actions, I do believe that attention to stereotypes can greatly enhance scholarly understanding of organizations and their relationships to categorization. Similarly, stereotypes have other implications for firm categories. Stereotypes often result in different levels of social categories' desirability; that is, these labels can lead to the preferential ordering of categories based on audiences' evaluations. These stereotype-based orderings of firm categories can also have important implications for firm strategies.

This study contributes to the literature in several ways. Firstly, it introduces an alternative conceptualization of organization categories. The prototype view of category has been the dominant view in organization theory. Recently, scholars have questioned the applicability of this prototype view to various market situations (Durand et al., 2017; Durand and Paolella 2013; Paolella and Durand 2016). Categorical stereotypes contribute to our understanding of how audiences process information about firms and product groups. Secondly, it introduces the affective implications of categories. Similar to prior theoretical traditions in macro-organization behavior, the categories discourse has been silent on the affective consequences of the cognitive bases of its core arguments (Voronov and Vince, 2012). The present study explores how categorical stereotypes generate emotions about the members of different categories. Lastly, it examines the links between categorical cognitions and actions in markets. It suggests that the absence of affects in the arguments that link cognitions to actions in the categorical literature means that the category theory of action is underspecified. I explore the affective implications of categorization and link them with strategic actions toward members of different firm groups. The remaining part of the paper is arranged in the following sequence: in the next section, I review relevant pieces of literature to set the stage for my arguments. I briefly discuss the literatures on categorical imperative, categorical stigma, and stereotypes. This is followed by the main arguments on stereotypes and the affective implications of categorization; the section also contains the study's propositions. I wrap up the paper with discussions on the consequences of these arguments on managerial practices and scholarly researches.

Organizational Categories Literature

Many pieces of literature underline the arguments linking stereotypes to category-based actions in markets. In the following sections, I examine key insights in these literatures and how they relate to the arguments put forward in this paper. The literature on categorical imperatives introduced the category-based arguments to most branches of organization theory (Durand et al., 2017; Vergne and Wry 2014; Zuckerman 1999, 2000). Studies on the categorical imperative suggest that audiences punish actors that cross categorical boundaries. In addition to reviewing studies on categorical imperative, I examine the discourse around how category memberships impact organizations' actions. While some scholars argue that category membership constrains organizations' actions, others suggest that categories enable actions. Lastly, I examine recent literature on stigmatized categories and how group members address the stigmas attached to their groups.

Categorical Imperative

Categorical imperatives suggest that audiences penalize actors that cross group boundaries. Scholars refer to crossing categorical boundaries as category spanning or straddling. In a series of studies two decades ago, Ezra Zuckerman Sivan convincingly showed that firms that spanned multiple industry boundaries are overlooked by stock analysts, and this reduced attention led to lower valuation and higher volatility (Zuckerman 1999, 2000). Zhao, Ishihara, and Lounsbury (2013) observed similar relationships for films spanning multiple genre categories; in addition to the illegitimacy discount these genre-spanning films suffered, the authors claimed that invoking familiar film names was not potent enough to neutralize the penalties (Zhao, Ishihara, and Lounsbury 2013). Other studies qualified the conditions under which spanning categories led to penalties from audiences. Pontikes (2012) argued that the types of audiences moderate the relationship between category spanning and audience penalties. The author suggested that market-takers, such as consumers, relish clear categorical boundaries; therefore, they punish the actors straddling categorical boundaries. Conversely, market-makers such as venture capitalists embrace straddling and might even reward categorical spanning (see also Wry et al., 2014). Vergne (2012) argued that straddling can be beneficial for actors that are members of stigmatized firm groups; the author suggested that straddling may dilute focus on the stigma associated with the organization's category. These studies link audiences' actions to categorical cognitions. However, the absence of affective consequences of these categorical cognitions means that the processes that link perceptions to actions are underspecified

Constraining Effects of Categories on Organizational Actions

Categorical imperative arguments suggest that categories constrain the actions of group members and their audiences; that is, because audiences punish atypical members, grouped firms tend to stay within the boundaries of their groups. In addition, audiences are construed as preferring clearly defined boundaries; therefore, they favor actors that comfortably fit within the group's boundaries. Some scholars have challenged these constraining effects of categories (Durand and Paolella 2013; Glynn and Navis 2013). They argue that because organization studies of categories are rooted in the prototypical view, it can be concluded that the closer the firms are to the group prototype, the better.

Other scholars have suggested different conceptualizations of market categories. Durand and Paolella (2013) proposed cause-and-effect-based groupings and goal-based groupings as alternatives to the dominant prototypical view. The authors said that these alternative cognitions are essential to understanding categories' enabling effects. They further argued that cause-and-effect reasoning could motivate audiences to cobble together groups based on what they know can create desired effects. In this case, objects, artifacts, or social actors that possess the cause are lumped into the ad-hoc groups of entities that can create the desired effects. For instance, Diestre and Rajagopalan (2014) found that accidents involving a chemical led financial market audiences to create an ad-hoc category consisting of firms using the chemical. Goal-oriented groupings allow audiences and group members to form ad hoc categories to pursue specific goals. The goal for hosting a major sporting event might create an ad-hoc group of local firms whose patronages and visibilities might be enhanced by the sporting event. Glynn and Navis (2013) argued that the constraining views of categories are consequences of obsession with the cognitive ramifications of categories. According to these authors, firm groups are embedded in wider systems of social meanings; these social contexts can affect how categories influence actions. While going beyond the prototype-based arguments, the cognitive bias is still self-evident in these objections. However, affects are better predictors of action than cognition (Cuddy, Fiske, and Glick 2007). Stereotypes link categorical cognitions with different affective dispositions.

Category Stigmas

Several recent studies of organizational categories have highlighted the social stigmas associated with some categories. These studies showcased audiences' interpretations of category membership. While not using the term "stereotype," the studies alluded to categorical stereotypes by drawing attention to social evaluations of group membership rather than the purity, or lack thereof, of group membership. Vergne (2012) focused on stigmatized firm groups and how the stigmas led to social disapproval. The study examined the global arms industry as a stigmatized product category; some members of the industry were further stigmatized by their countries of origin. The author explained that category members ventured into different product lines to mask the impacts of the stigma associated with their primary industry categories. He convincingly theorized and showed how category spanning could shield members of stigmatized categories from disapproval.

Piazza and Perretti (2015) built on the notion of categorical stigma to show when actors are likely to exit stigmatized product lines. In their study of nuclear reactor units in the United States, the authors argued that a firm's decision to quit stigmatized product lines depended on the intensity of the stigma, media focus on the industry, and the centrality of the stigmatized product to the organization's identity. They posited that sometimes the only way to escape some stigmas is to break away from the associated groups (Piazza and Perretti, 2015).

Delmestri and Greenwood (2016) examined how an organization destigmatized its category and reaped the benefits of a high-status firm group. Grappa, an Italian spirit, was a stigmatized product whose reclassification faced stiff resistance from different audiences. They chronicled the different strategic and culturally constrained actions that led to the stigma being removed from this product group.

Taken together, these studies highlighted the importance of categorical stigmas in motivating organizational actions. However, the present literature focuses only on members of stigmatized firm groups and how they work to mask or remove negative perceptions of their social groups (Delmestri and Greenwood 2016; Piazza and Perretti 2015; Vergne 2012). Generally, stigmas invoke emotional reactions from category members and their audiences (Zietsma and Toubiana 2018). These affective dimensions of stigmas were overlooked in these studies. In addition, rather than being stigmatized, some firm categories are admired (e.g., biotechnology firms) while others are envied (e.g., investment banks). These emotions directed toward categorized firms can also influence audiences' actions toward group members and the reactions of categorized firms (Harmeling et al., 2015).

Affective Implications of Categorization

The role of affects in the social process of categorization has been relegated to the background in organization theory. By affect, I mean the process that leads to the experience of emotion, mood states, arousal, etc. Contextualized understanding of audiences must show them as more than cognitive optimizers and include considerations for other social cues such as affects in audiences' decision-making models (Hamilton and Mackie 1993; Zietsma and Toubiana 2018). One of the critical challenges in incorporating affects into group processes is the misconception of affects as solely individual-level constructs. Like cognitions, affects can operate at a higher level of social organization such as groups, organizations, industries, and societies (Menges and Kilduff 2015; Moisander, Hirsto, and Fahy 2016). It is not unusual to hear that the "mood of the nation is bad." These group-level affects are functions of the collective identity. For instance, someone might feel a sense of sorrow when his/her group suffers losses that might not directly impact the person. These group-level affects influence individual behaviors in nontrivial ways (Moisander et al., 2016).

Audiences' views of market typology are also infused with group-level affects (Hamilton and Mackie 1993). These group affects interact with group cognitions to determine responses to the actions of members of different groups (Menges and Kilduff 2015). Recent studies in social sciences advocate this integration of cognitive and affective models to understand social actions. Affects are precursors to actions (Frijda 2016; Frijda et al., 1989; Hamilton and Mackie 1993). Cognitive stimuli are unlikely to lead to action without cueing affective responses; that is, cognitions influence actions through affects (Cuddy et al., 2008). Conversely, affective stimuli often cue different cognitive stimuli (Hamilton and Mackie 1993). For instance, the feeling of hunger can lead actors to regroup surrounding objects to edible and non-edible categories. Similar processes that integrate cognitive and affective stimuli might be at play when audiences evaluate firms' categorical affiliations.

Recent studies in organization category literature are beginning to recognize the role of affects in category-based actions. In their study of business sellers on eBay, Curchod, Patriotta, and Neysen (2014) showed how the degree of alignment between eBay's grouping of business sellers (categorical framing) and the sellers' perception of the category (categorical selves) resulted in different emotions among these business sellers; these emotions led business sellers to carry out different identity works. Sellers whose categorical selves mostly aligned with eBay's categorical framing exuded feelings of pride and acted in ways that reinforced their original identity. Sellers whose categorical selves were moderately misaligned with eBay's categorical framing became disgruntled and revised and resisted their initial identity. Sellers whose categorical selves were severely misaligned with eBay's categorical framing felt alienated by the organization and reacted by disidentification from their original identity (Curchod, Patriotta, and Neysen 2014). Their study chronicled how different affects resulting from categorical cognitions shape the actions of category members. The conclusions of the study are in sync with the cognitive-affective theories in psychology (Frijda 2016; Hamilton and Mackie 1993; Harmeling et al., 2015).

Similarly, categorical cognitions cue an affective disposition among audiences. For instance, in his study of the global arms industry, Vergne (2012, 1035) documented strong emotional responses from the audiences of the industry. In one interview, the respondent said, "Sometimes people feel embarrassed when I tell them I build and sell weapons." Another respondent claimed, "... a guy at dinner would start being aggressive because you just told them what you do for a living. I mean, sometimes it feels strange to realize that people would start disliking you just because of your job." These data snippets show that the disapprovals directed at the global arms industry are not just cognitively salient but also emotionally charged. In their study on Italian grappa, Delmestri and Greenwood (2016, 508) alluded to the strong negative emotions associated with the low-status spirit when they said, "Giannola Nonino's 1974 attempt to sell Grappa di Picolit for 8,000 Italian lire for a 25cl flagon … was received with scorn and laughter." These studies imply that categorization invokes emotions in categorized actors and their audiences, and the emotions invoked by this categorical association influences the actions of market participants.

Stereotypes of Firm and Product Categories

Categories are cognitive frames that group similar entities and ascribe specific physical and social characteristics to them. The most prominent categorical cognition in organization theory is prototypes (Durand et al., 2017; Vergne and Wry 2014). Vergne and Wry (2014, 72) defined prototype as "the most representative or central member of a category in the eyes of a given audience." While there are contentions about how best prototype captures categorical effects in markets, none of them are about the emotions resulting from prototypes. To understand the affective dimensions and consequences of categories, I propose another categorical cognition, which has hitherto been peripheral in the study of organization categories: stereotypes. "By most historical accounts, Lippmann (1922) introduced the term 'stereotypes' to refer to the typical picture that comes to mind when thinking about a particular social group" (Dovidio et al. 2010, 7). Stereotypes are the cognitive schema deployed by social actors to interpret the information about a specific social category (Bodenhausen et al., 2012; Cuddy et al., 2007; Dovidio et al. 2010). They are the audiences' beliefs about members of social groups.

In a study, Aaker, Vohs, and Mogilner (2010) found that when consumers categorized organizations as non-profits, they also stereotyped them as friendly. Conversely, when organizations were categorized as for-profit, they invoked efficacious stereotypes; that is, they were perceived as being effective in achieving their goals. The study further suggested that the stereotype attached to organizations determines purchase intentions; specifically, consumers showed higher purchase intentions toward for-profit organizations than non-profit organizations (Aaker, Garbinsky, and Vohs 2012; Aaker et al., 2010). In further experimental manipulations, the authors showed that when stereotypes about non-profits include higher efficacy, the disparities in consumer purchase intentions between for-profit and non-profit disappeared. The authors concluded that consumers stereotype firm categories and that these stereotypes influence consumer behaviors toward different groups of organizations.

Similarly, Sharkey (2014) argued that categories could be stereotyped as high-status. In a study of earnings restatements by publicly quoted American firms, Sharkey (2014) demonstrated that high-status stereotypes reduced the penalties imposed on member organizations that restated their earnings. High-status stereotypes acted as lenses through which organizations' actions are evaluated (Sharkey 2014).

Warmth and Competence Stereotypes of Categories

Category literature in organization theory has paid little attention to stereotypes; however, stereotypes are essential components of organizational categories. Insomuch as scholars deem audiences' perceptions of firm groups as necessary, the tools audiences use to arrange their perceptions must also be important; these tools are stereotypes (Bodenhausen et al., 2012; Diamantopoulos et al. 2017). Stereotypes are cultural and cognitive representations of social categories. Usually, when audiences perceive a social group, they do not just visualize the prototypical member, they also think about the characteristics that set the group apart from other groups; these characteristics are the stereotypes of the focal group. Stereotypes are the cognitive schema used by audiences to process information about social groups (Dovidio et al. 2010). Stereotypes go beyond the beliefs about the members of different social groups to include information about groups and can influence emotions directed toward group members (Dovidio et al. 2010).

While there are many ways to analyze the components of stereotypes, there seems to be a near consensus among researchers that the Stereotype Content Model (SCM) aptly captures how audiences stereotype members of different social groups (Aaker et al., 2010; Cuddy et al., 2008;

Diamantopoulos et al. 2017; Dovidio et al. 2010). The SCM suggests that stereotypes vary along two components: warmth and competence. With these components, audiences perceive members of social groups in different ways. Variations along these two components create a conceptual two-by-two partition in which social groups can be stereotyped as either high or low on warmth and competence; that is, categorical stereotypes can be warm and competent, cold and incompetent, warm but incompetent, and cold but competent. Studies across many academic fields attest to the robustness of the SCM and its application to different social arenas (Aaker et al., 2010; Barbarossa et al. 2016; Durante et al. 2017; Halkias et al., 2016; Villano et al. 2017).

Warmth and competence are the two components of stereotypes. Warmth captures the intentions of social groups' members; competence captures their ability to carry out their intentions (Cuddy et al., 2008). A social category is stereotyped as warm if its members are perceived to have benevolent intentions toward other categories. Warmth stereotypes are characterized by adjectives such as good-natured, trustworthy, fair, friendly, and tolerant. A social group is labeled as competent if its members are perceived as highly capable of carrying out their intentions. Competence stereotypes are associated with words such as efficacy, confidence, intelligence, and skill. Competition is the antecedent of warmth; audiences consider non-competitive others as warm. Perceived status is the antecedent of competence; that is, groups considered high-status are stereotyped as competent. Stereotype contents based on warmth and competence can either be ambivalent or univalent. Univalent stereotypes are the two that have both components in the same direction, i.e., warm and competent; and cold and incompetent. Ambivalent stereotypes are the two whose components are opposite directions, i.e., warm but incompetent and cold but competent. Several studies have shown that most stereotypes are ambivalent. This is probably because the two stereotype components compensate for each other. In addition, studies have shown the primacy of warmth over competence in many empirical settings; that is, audiences tend to stereotype first regarding warmth and then regarding competence (Fiske et al. 2002).

Audiences employ perceptions of warmth and competence when describing firm and product categories. While describing the initial low status of Italian grappa, Delmestri and Greenwood (2016, 508) wrote, “Grappa was known as a coarse spirit consumed ‘at the margin of the society by peasants and alpine soldiers … and was associated with artisanal and even clandestine production in hidden shacks or woodland. … At that time, artisanal family firms were considered primitive.’” Not only did this quote reference the low status of the product, but it also suggests the low competence associated with the product category. It is not surprising that when the status of the product changed, high-competence adjectives were used in describing the product category. Similarly, Barbarossa et al. (2016) argued convincingly that organizations from countries stereotyped as competent are thought to be more efficacious than others; that is, audiences categorize organizations by the competence stereotypes associated with their respective countries of origin. Put together, these studies showed that competence is one of the ways in which audiences perceive organization categories.

Stereotypes of warmth are also ubiquitous in scholarly descriptions of organization categories. Vergne (2012) claimed that audiences refer to arms dealers as “merchants of death”; this term shows the extreme antagonism from the relevant audiences toward this product category. Warmth stereotypes capture the degree of audiences’ friendliness toward product and organizational categories. Audiences stereotyped the arms industry described in Vergne (2012) as low-warmth. Similarly, Piazza and Perretti (2015) showed audiences’ animosity toward nuclear power plants. The authors contended that nuclear accidents were not the only reason for this unfriendliness; many nuclear power plants were approved and installed after different nuclear power plant accidents. The animosity boiled down to audiences' perception of the product category as low-warmth, i.e., unfriendly. In the same vein, studies in consumer research showed that consumers stereotype non-profit firms as warm because of the perceived trustworthiness and nobleness of their different causes (Aaker et al., 2010; Bernritter, Verlegh, and Smit 2016). These show that audiences rely on warmth stereotypes in their perceptions of organization categories.

Stereotype and Affects

Warmth and competence are the fundamental dimensions of human perceptions and judgments (Aaker et al., 2012; Cuddy et al., 2008; Dovidio et al. 2010). Warmth perceptions suggest that actors are friendly, kind, and trustworthy. On the other hand, competence perceptions suggest that actors are powerful, intelligent, high-status, etc. Audiences perceive organizations and their categories with the fundamental dimensions of warmth and competence. For instance, Aaker et al., (2010) showed that consumers perceive non-profit organizations as warmth and for-profit organizations as competent. The idea that audiences treat organizations and their different groups with dimensions associated with humans is not novel in organization theory. Most major theoretical domains in organization theory are premised on this type of cross-level extension of concepts. For instance, organizations are said to have identities that not only shape the worldviews of their members but also influence how audiences relate to them (Albert, Ashforth, and Dutton 2000; Gioia et al. 2013). While these identities operate at the organization level, they also show up at the collective level (Wry, Lounsbury, and Glynn 2011). Organizations derive part of their identities from their collective groups; therefore, how audiences perceive organizations is shaped partly by the organizations' categories (Wry et al., 2011). Organization categories are also perceived along the dimensions of warmth and competence. Organization categories can be stereotyped as high or low in the warmth dimension and high or low in the competence dimension; the different combinations of warmth and competence elicit different emotions from audiences (Cuddy 2007; Cuddy, Glick, & Beninger 2011; Fiske et al. 2002). While emotions were initially conceptualized as individual-level constructs, recent advances in psychology and sociology research have showed that emotions can be at a higher level of social organizations (Menges and Kilduff 2015). Social psychologists assert that individuals experience similar emotions through the process of identifying with groups (Bodenhausen et al., 2012; Hamilton and Mackie 1993). On the other hand, sociologists contend that social actors evoke similar emotions through the norms and rituals of the institutions in which they are embedded (Freeland and Hoey 2018; Massa et al. 2017; Menges and Kilduff 2015; Rogers, Schröder, and Scholl 2013). For instance, most people in Western societies experience feelings of grief during funerals and happiness when new babies are born. Emotional responses to social categories are extensions of these group-level mechanisms of emotional contagion (Cuddy et al., 2007; Hamilton and Mackie 1993). Leveraging social comparison and attribution models of emotion, proponents of the SCM have argued that groups stereotyped as warm and competent will be admired; groups stereotyped as cold and competent will be envied, groups stereotyped as warm and incompetent will be pitied, and groups stereotyped as cold and incompetent will be despised (Aaker et al., 2010; Barbarossa et al. 2016; Cuddy et al., 2008; Cuddy, Glick, and Beninger 2011).

Proposition 1

The different combinations of warmth and competence components of stereotypes elicit different emotions toward organizational categories.

Warm and competent groups are often admired by their audiences. This is partly because of the upward assimilative social comparisons of these groups by their audiences (Cuddy et al., 2008, 2011). The feelings of pride and admiration toward the groups are often because the audiences identify with them or they are social reference points. Hence, the achievements of desirable outcomes and higher status do not constitute threats to the audiences. Successes of allied groups result in feelings of pride and admiration. Biotech organizations and similar firms on the cutting edge of modern technology are often singled out for admiration in popular and scholarly press. This might not be unconnected with the near consensus that these organizations are advancing the course of our civilization and producing outcomes such as cures for diseases that contribute to the collective wellbeing of the population. Organizations seem to value the emotion of admiration, as *Fortune*® magazine's list of most admired companies is one of the most anticipated lists of the year (Vergne 2012).

Proposition 1a

Organization categories stereotyped as warm and competent elicit emotions of admiration and pride from audiences.

Cold and competent groups often elicit envy and jealousy from their audiences. This is partly because of the upward contrastive comparisons to their evaluators (Cuddy et al., 2008, 2011). Feelings of envy and jealousy often attest to audiences' acquiescence that the envied groups are capable and responsible for their success. However, the perceived competition and unfriendliness of the focal group means that they are not met with the universal approval directed at friendlier groups. The groups' success often sheds light on the shortcomings of the evaluating groups. Contrastingly, there might be feelings of schadenfreude should misfortune befall the envied groups (Menges and Kilduff 2015). Oil and gas companies are examples of organization categories that elicit envy. Their exploitation of natural resources, which many believe contributes to global climate change, causes them to be viewed as unfriendly by many audiences. On the other hand, their level of commercial success has made them look competent to many audiences. Contrastingly, the fall of many bank executives in the aftermath of the 2008 financial crisis generated a feeling of schadenfreude in many quarters on the main street. Apparently, audiences stereotyped these executives as low warmth and were elated to see them suffer doses of bad luck.

Proposition 1b

Organization categories stereotyped as cold and competent elicit emotions of envy and jealousy from audiences.

Warm and incompetent groups often elicit feelings of pity and sympathy. This is partly because of the downward assimilative social comparisons to their evaluators (Cuddy et al., 2008, 2011). Feelings of pity are often directed toward groups that suffer from misfortunes beyond their control; this perception of a lack of agency on the part of the focal groups is what separates them from the cold and incompetent groups (Cuddy et al., 2008, 2011). The feeling of pity is often paternalistic; the perceivers are often from socially dominant groups that feel the need to emotionally facilitate the pitied group (Muller, Pfarrer, and Little 2014). These feelings of pity and sympathy are usually directed toward non-competitive outgroups. Studies in consumer behavior have shown that non-profit organizations are viewed by many as warm but incompetent. Similarly, audiences often pity mom-and-pop grocery stores. In the popular rhetoric about massive expansions of supermarket chains, mom-and-pop grocery stores are cast as victims of corporate greed, which is beyond their control.

Proposition 1c

Organization categories stereotyped as warm and incompetent elicit emotions of pity and sympathy from audiences.

Cold and incompetent groups often elicit feelings of contempt, disgust, and resentment. This is partly because of the downward contrastive comparisons to their evaluators (Cuddy et al., 2008, 2011). The feeling of contempt often comes from the notion that the members of the focal groups are responsible for their misfortune and constitute a burden to society because of their bad choices (Cuddy et al., 2007). These violations of societal expectations and the resultant bad outcomes elicit various unpleasant emotions from their audiences. The general anger and moral indignations that were directed at the financial industry in the immediate aftermath of the 2008 financial crisis are examples of these emotions toward the organization categories (Roulet 2015). Many audiences believed that the failure was because of the incompetence of the financial industry, which had been disliked but considered efficacious (Roulet 2015). The perceived incompetence, because of the outcome of the financial crisis, relegated the industry to the cold and incompetent category. Similar feelings of contempt are often directed at organizations in bankruptcy. Firms are historically viewed as going concerns, and the notion of bankruptcy suggests organizational incompetence to different stakeholders.

Proposition 1d

Organization categories stereotyped as cold and incompetent elicit emotions of contempt and disgust from audiences.

Behavioral Outcome of Stereotype-Based Emotions

While prior scholarship in category literature in organization theory suggests that categorical cognitions cue responses from audiences and categorized entities, studies in adjacent disciplines contend that affects predict actions better than cognitions (Cuddy et al., 2008; Frijda 2016; Hamilton and Mackie 1993; Harmeling et al., 2015; Muller et al., 2014). In his extensive work on affects, Frijda argued that emotions are better construed as action readiness (Frijda 2016; Frijda et al., 1989); that is, “the preparation for movements or actions” (Frijda 2016, 609). The clear focus on cognitions as antecedents to action in the category research is not surprising, given the similar cognitive bias in other domains of organization theory (Zietsma and Toubiana 2018). For instance, in institutional theory, Zietsma and Toubiana (2018, 428) claimed that “foregrounding the cognitive resulted in backgrounding the affective.” Scholars have argued that the clear focus on cognitions in organization theory is returning the field to its original counterexample: the rational theories of human actions (Voronov and Vince 2012). Recently, scholars have challenged this cognitive lopsidedness and are making cases for the parity of affective processes. Voronov and Vince (2012) argued that the key institutional processes of creations, maintenances, and disruptions could not be fully explained by their cognitive ramifications:

> Our central argument [is] that cognitive divestment from current institutional order may, in itself, not be enough to motivate an agent to engage in institutional change and that purely cognitive investment in current institutional order may not be enough to motivate an agent to defend it. (Voronov and Vince 2012, 61)

In addition, they proposed:

> The interplay between the cognitive and emotional attachment of individual to the institutional order … to varying degrees, influences the type of institutional work they are likely to engage in. … (Voronov and Vince 2012, 64)

This new approach to organization theory places affective processes at the center of social actions in organizations and links affective and cognitive processes to organizational behavior. This study builds on this emerging theoretical foundation and argues that the affective consequences of the warm and competent stereotypes are linked with different actions directed at category members.

The Behavior from Intergroup Affects and Stereotypes (BIAS) map builds on the SCM to link emotions evoked by different combinations of warmth and competence to different actions (Cuddy et al., 2008; Diamantopoulos et al., 2017; Dovidio et al., 2010). The proponents classified actions as active or passive regarding intensity and facilitation or harm regarding valence. In differentiating active behaviors from passive behaviors, Ayduk et al. (2003) argued that active behaviors are direct, overt, intense, explicit, and high risk while passive behaviors are less intense, indirect, avoidant, and covert (see also Cuddy et al., 2007; Harmeling et al., 2015). Regarding facilitation and harm, Cuddy et al., (2007, 633) differentiated these actions as follows: “Facilitation leads to ostensibly favorable outcomes or gains for groups; harm leads to detrimental outcomes or losses for groups.”

The authors further argued that while warmth stereotypes determine the valence of active actions, competence stereotypes determine the valence of passive actions (see Cuddy et al., 2007 for details). Studies conducted by Susan Fiske, Amy Cuddy, and their co-authors showed that admired categories (i.e., warm and competent groups) elicit active and passive facilitation; audiences want to help members of these categories (active facilitation) and associate with them (passive facilitation). The despised categories (i.e., cold and incompetent groups) elicit active and passive harm; audiences do not want to help them (active harm) and do not want to associate with them (passive harm). The ambivalent stereotypes lead to contrasting active and passive behavioral orientations. While the pitied categories (warm but incompetent groups) elicit active facilitation, i.e., audiences want to help them, and passive harm, i.e., audiences do not want to associate with them, the envied categories (cold but incompetent groups) elicit active harm, i.e., audiences do not want to help them, and passive facilitation, i.e., audiences want to associate with them. Categorical stereotypes lead to emotions that orient audiences' actions toward category members. It is important to note that the perceptions of warmth and competence are specific to a social group and audience dyad. While multiple audiences can have similar stereotypes for a social group, the arguments presented here do not foreclose different stereotypes for a focal group. For instance, categories admired by one set of audiences can be envied by another set of audiences, etc.

Categories perceived as warm and competent elicit admiration and pride from audiences. These emotions of pride and admiration motivate audiences to actively canvass for the categories. Many organization categories are admired by different audiences; this admiration often leads to behaviors that are consistent with the predictions of the SCM and BIAS map. For instance, studies of evangelists (that is, audiences who go above and beyond to promote new or emerging organizational practices) show that affective identification and affiliations are important mechanisms that propel evangelists to promote new practices. Massa et al. (2017, 461) argued that the organizational "rituals that translate emerging practices into inspiring emotional experiences for particular audiences motivate these audiences to become evangelists for the Ontario wine product category." Similarly, Delmestri and Greenwood (2016) found that after Italian grappa had been reconstituted as a high-prestige product with a distinctive Italian identity, audiences embraced the product and showed off their sophistication by consuming it. The new grappa acquired new stereotypes that were comparable to other high-society spirits such as cognac and whiskey (Delmestri and Greenwood 2016).

Proposition 2a

Emotions of admiration and pride directed at warm and competent categories elicit behaviors of active and passive facilitation from audiences.

Groups viewed as cold but competent invoke envy and jealousy from their audiences. The SCM and BIAS map suggest that this will lead to active harm and passive facilitation. In their study of envy in organizations, Tai, Narayanan, and McAllister (2012, 107) defined envy as "pain at another's good fortune." They argued that the conventional view that envy always leads to destructive behaviors is incomplete; the ambivalence in envy social evaluation (i.e., upward albeit unfavorable social comparisons) means that envy can result in both positive and negative reactions (Tai, Narayanan, and McAllister 2012). Scholars had theorized that envy could lead to emulative behaviors because of the upward social comparison implied in feelings of envy (Antonetti and Maklan 2016; Cuddy et al., 2011). Antonetti and Maklan (2016) argued that consumers are more likely to patronize brands that invoke envy; envy plays a crucial role in fueling emulation in consumption. However, the negative aspects of these evaluations can also influence audiences' actions. Vergne (2012) cataloged the general animosity toward the global arms industry because of the low warmth of the industry category. In addition, when situational factors made the low warmth stereotypes more salient (such as after the 9/11 attack), audiences' disapproval increased (Cuddy et al., 2007; Vergne 2012)

Proposition 2b

Emotions of envy and jealousy directed at cold but competent categories elicit behaviors of active harm and passive facilitation from audiences.

Warm but incompetent stereotypes arouse pity and sympathy from audiences. These favorable downward social comparisons make audiences condescend to members of the warm but incompetent social group. The SCM and BIAS map suggest active facilitation and passive harm behavioral consequences. Sympathy and pity often result from an acknowledgment that the actors were not responsible for their predicaments; audiences might feel obligated to lend helping hands to the pitied groups, hence, the active facilitation behavior. Muller, Pfarrer, and Little (2014) laid out how feelings of empathy toward the plights of disadvantaged groups motivate organizational members to push for corporate philanthropy. The authors questioned the rational bases of prior corporate philanthropy studies and demonstrated that the desire to help others in need contributes significantly to corporate philanthropic activities (Muller et al., 2014). Similarly, Bernritter et al., (2016) showed that non-profit organizations (usually stereotyped as warm but incompetent [Aaker et al., 2010]) are more likely to receive consumers' endorsements on social media. However, the ambivalence of the stereotypes means that there are downsides associated with low-competence perceptions. Antonetti and Maklan (2016) showed that consumers are less likely to adopt responsible brands because people who patronize such brands are stereotyped as warm but incompetent (think of stereotypes such as hippies or tree huggers).

Proposition 2c

Emotions of pity and sympathy directed at warm but incompetent categories elicit behaviors of active facilitation and passive harm from audiences.

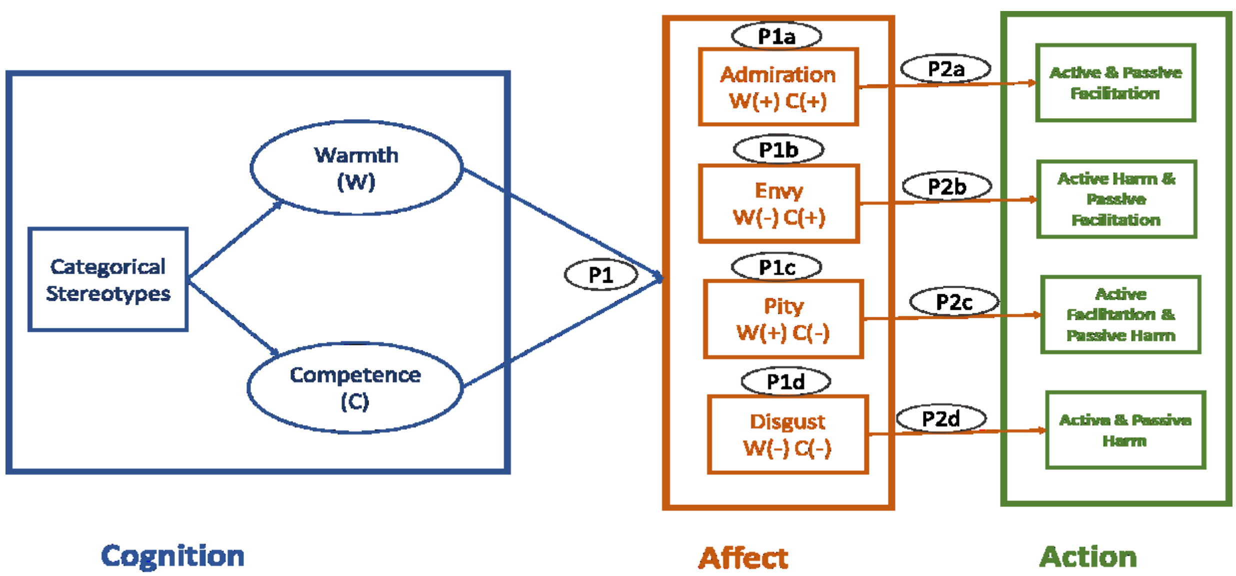
Cold and incompetent groups evoke contempt and disgust from audiences. When groups are held responsible for their adverse outcomes, they are likely to be perceived as incompetent freeloaders (Cuddy et al., 2011). These attributions of adverse consequences set audiences against the focal group and can be precursors of harmful passive and active behaviors toward members of the focal group; that is, audiences actively and passively harm cold and incompetent groups. Harmeling et al., (2015) argued that emotional responses to cold stereotypes include anger toward the representative organization categories. The authors showed that audiences' anger toward organizational categories resulted in negative word-of-mouth and product avoidance. Similarly, Delmestri and Greenwood (2016) described the plight of Italian grappa that arose from the cold and incompetent stereotype of the category. From their descriptions, it was apparent that audiences initially relegated the grappa to a low-status rung on the categorical ladder and did not want to be associated with the product.

Proposition 2d

Emotions of contempt and disgust directed at cold and incompetent categories elicit behaviors of active and passive harm from audiences.

The arguments in propositions 1 and 2 are illustrated in figure I.

Figure I Propositions 1 and 2



Categorical Stereotypes and Categorized Actors

Up until now, discussions have mostly centered around audiences' responses to the different stereotypes associated with organization categories. Stereotypes also shape the behaviors of categorized actors. Prior studies have argued that prototypes constrain categorized actors to conform to audiences' expectations. While members of a group with negative stereotypes might attempt to correct the negative perceptions of their group, the fact that the stereotypes associated with their group will be used to evaluate their corrective actions complicates the effectiveness of these strategic attempts to reinvent group stereotypes. For instance, many environmental groups labeled Walmart's initial attempts at reducing its carbon footprint as "greenwashing," partly because of the negative stereotypes associated with supermarket chains. However, organizations are strategic actors and are unlikely to acquiesce to negative stereotypes about their groups; this is especially so if such improvements in perception can translate to discernable benefits for the organizations (Aaker et al., 2010; Cuddy et al., 2011; Delmestri and Greenwood 2016; Vergne 2012). Existing shreds of evidence suggest that organizations take steps to counter the negative perceptions of their social groups. However, as entrepreneurship studies have highlighted, successful outcomes are often overrepresented in management research. Therefore, the strategies for countering categorical stereotypes drawn from management literature might overrepresent successful cases of stereotype changes. This does not take away from the overall idea that organizations often strategize and act to counter the negative stereotypes associated with their social categories.

Exiting a negatively stereotyped group is one popular strategy for dealing with negative group perceptions (Durand and Vergne 2015; Piazza and Perretti 2015). Often, group membership is not core to the identities of some of the organizations that identify with the group. For instance, the products or markets that align organizations with categories might be marginal in the organizational product and market portfolios. In such cases, the organizations can divest the products or exit the markets to rid themselves of the negative stereotypes associated with the categories. Durand and Vergne (2015) argued that organizations in global arms industries divest their weapons units to escape the stereotypes associated with this stigmatized category. They argued that when media attacks focused on the arms dealership of focal firms and other firms in their categories, organizations could not default to traditional impression management strategies; often, they divested to rid themselves of the negative perceptions associated with their weapon strategic business units (Durand and Vergne 2015). Similarly, Piazza and Perretti (2015) found that organizations often disengage from stigmatized activities to create a cognitive distance from negative stereotypes of social categories. In addition, this study of nuclear power plants showed that the option of exit is not equally feasible for all members of the stereotyped groups; the members whose identities were intertwined with the group affiliation found it more difficult to opt out of the group.

Beyond exiting negatively stereotyped groups, organizations can affiliate with other groups to distract audiences from the negative labels of their groups. Vergne (2012) argued that some organizations that are members of a stigmatized category were able to dilute the intensity of sanctions associated with the category by affiliating with other well-received firm groups. Prior scholarship in organization categories has contended that affiliating with multiple categories usually leads to negative evaluations. Vergne (2012) extended this argument by showing that the negative assessment associated with unfavorably stereotyped categories can be diluted when members of these groups affiliate with positively stereotyped categories. While Vergne (2012) focused on stigmatized categories (i.e., groups with very low warmth, very low competence, or very low warmth and very low competence), the strategy may also apply to other categories with moderately low warmth, moderately low competence, or moderately low warmth and competence. One of the conclusions of the SCM and BIAS map is that most groups are stereotyped to be either low on warmth or low on competence, i.e., ambivalent stereotypes (Cuddy et al., 2008; Dovidio et al. 2010). If this conclusion holds for organization categories and organizations strive to improve their perceptions, then organizations should span categories more often than research in organization category literature suggests. Only organizations that are members of admired categories should be expected to retain their pristine categorical identities. When categorical membership is central to organization identity and straddling might not be a valid option, organizations might follow strategies geared toward changing the stereotypes associated with their social group. In their study of the Italian spirit, grappa, Delmestri and Greenwood (2016) showed how one of the members of the stigmatized group reframed the stereotypes of Italian grappa. The authors uncovered three mechanisms—category detachment, category emulation, and category sublimation—that the protagonist deployed to reverse the categorical stereotypes of low warmth and low competence. Similarly, Aaker et al., (2010) showed how an endorsement by a high-status external audience could lead to the elimination of low-competence stereotypes among non-profit organizations. The scholars had noted that while for-profit organizations are stereotyped as competent, non-profits are stereotyped as warm (Aaker et al., 2012 2010). Non-profit organizations can improve their competence perception by securing glowing attestations to their competence from high-status external audiences (Aaker et al., 2010).

Negative stereotypes about organization categories can be due to low warmth (as in, cold but competent groups), low competence (as in, warm but incompetent groups), or low warmth and low competence (as in, cold and incompetent groups). Organizational scholarship on negative stereotypes, particularly stigma, has not made these distinctions. While it is usually possible to infer the type of negative stereotypes a study is addressing from understanding the antecedents of audiences' negativities, the lack of conceptual differentiation means that knowledge has not accumulated over time. In addition, the type of negative stereotype associated with groups can determine how effective different ameliorating strategies will be. In their study of how Thomas Cook's travel agency was destigmatized, Hampel and Tracey's (2017) arguments hinted that the stigma was in response to low warmth, i.e., organization activities that threaten the moral order. It is not surprising that the removal of this antagonism was at the center of the organization's de-stigmatization strategies (Hampel and Tracey 2017). This type of negative stereotype associated with low warmth often involves significant discursive components to reframe the relationships between crucial audiences and focal organizations or categories. Aaker et al., (2012) suggested that for a group considered cold but competent, framing their competence as used for friendly ends might improve the perception of warmth of the organization or group.

Organization groups stereotyped as warm but incompetent as well as cold and incompetent might require different strategies to improve the perceptions of their groups. This is because of the low competence stereotype. Aaker et al., (2012) argued that warmth stereotypes, being primary, are more malleable than competence stereotypes. Often, when audiences encounter competent members of groups perceived as incompetent, rather than change their stereotype about the group, the audiences often treat the individual as an exception to the group or create subcategories of competent members of the incompetent group. Aaker et al., (2012) suggested that interjecting competence around the activities that define a focal organization's perception of warmth might be an effective strategy for members of categories stereotyped as warm but incompetent. The authors argued that if organizations can show that their warmth is a by-product of their competence, they might be able to beat back the perception of incompetence.

Similarly, Aaker et al., (2010) argued that ringing endorsements from high-status external audiences could improve the competence perception of warm but incompetent groups. Cold and incompetent stereotypes are much more difficult to shake. Very few studies have examined how organization groups stereotyped as cold and incompetent change their perception; Delmestri and Greenwood's (2016) study on Italian grappa is an important exception. While this paper documented how the product categories attained a high-status perception, it also showed why escaping the cold and incompetent stereotype might be a precarious exercise; in the case of Italian grappa, there were multiple failed attempts before the breakthrough. In addition, the paper demonstrated the ambitions of organizational groups. Usually, members of cold and incompetent social groups (e.g., prisoners and homeless people) rarely attempt to change the stereotype of their groups; most members attempt to exit the group rather than try to change group stereotypes.

Proposition 3

- *Firms that are members of organization groups with negative stereotypes will be motivated to change or mask the stereotypes associated with their categories. Their strategies can include exiting the category, spanning to other well-received categories, and/or addressing the negative stereotypes of their group category.*
- *Deficiencies in warmth and/or competence stereotypes differentially shape strategies for ameliorating negative stereotypes.*

Discussion

Current organizational theorizing of categories in markets is devoid of the affective implications of social categorization. This paper identified this oversight and argued that affective processes, in addition to cognitive processes, determine how categories matter in markets. Affective processes are more proximal to behaviors and actions than cognitive processes (Cuddy et al., 2008; Frijda, 2016). In addition, I introduced stereotypes as complementary categorical cognitions that hitherto had been limited to the fringe of organization theory on the subject. Unlike prototypes, stereotypes are steep in affects, and these affective outcomes of stereotypes can shape how grouped actors and their audiences respond to categorization in markets. Warmth and competence are the components of stereotypes; some scholars have suggested that these two components of stereotypes are the universal dimensions of social perception (Aaker et al., 2010; Cuddy et al., 2008; Dovidio et al. 2010). This study theorized how the different combinations of warmth and competence stereotypes of organization categories shape outcomes in markets. I argued that these combinations of warmth and competence stereotypes can cue biased category-based actions in markets.

Scholars from different disciplines study categories and classification systems. Almost all systemic bodies of knowledge explore the concept of categories. Social actors learn about entities based on the entities' categories. However, the organization studies of firm categories do not reflect the breath of insights on the topic; knowledge of firm categories is based on a narrow sliver of the vast literature on the subject. Specifically, this paper addressed how categories influence the actions of audiences and the reactions of categorized firms. Previous studies in organization literature have addressed these responses to firm grouping in less systemic ways. For instance, while some have argued that audiences penalize firms spanning multiple categories, others contend that this might not always be the case. In addition, while conventional theoretical conclusions suggest that firms should reduce the number of categories they are affiliated with, some firms seem to favor spanning multiple groups; that is, there are disconnects between theoretical conclusions and the empirical realities of many firms. I argued that this is because scholars ignore what it means to be members of different firm groups. Beyond grouping, categories are bases for inferences about group members. Some scholars have conceptualized these inferences as stereotypes. Stereotypes that audiences hold about social groups are transferred to the members of these groups.

In addition, I argued that the introduction of stereotypes to organization category literature will remove the pretense of audience impartiality. Audiences have different preferences for social groups; that is, audiences value some social groups more than others (Sharkey 2014). Stereotypes make this dimension of categorization salient. Building on the seminal works of scholars in social and cognitive psychology, I showed how labels attached to groups might shape the audiences' actions and the group members' reactions. Stereotypes vary on the two components of warmth and competence. Warmth captures the intentions of members of social groups toward the audiences, while competence captures the perceptions of the group members' efficacy. Groups can be stereotyped as warm and competent, cold and incompetent, cold but competent, and warm but incompetent. The SCM and BIAS map propose different emotions and actions that might result from these different labels. These models are relevant to our understanding of category-inspired actions and reactions because both audiences and grouped firms respond to the labels attached to the firm groups. Firm groups can be admired, envied, pitied, or despised by their audiences. These stereotypes can inform why firms might want to span categories.

Various audiences might value warmth and competence differently. For instance, while shareholders in for-profit firms might emphasize competence over warmth, potential employees, environmentalists, and community stakeholders might put more emphasis on warmth. One critical assumption of agency theory, a leading perspective in financial corporate governance analysis, is the belief that owners and managers of organizations are competing for the firms' resource allocations; competition between social groups is the antecedent of the warmth stereotype. That is, corporate governance arrangements designed along the stipulations of agency theory were meant to tackle the low-warmth stereotypes that shareholders had about managers of major corporations. Having "resolved" the low-warmth stereotypes of managers through agency-theory based contracts, shareholders can focus on competent stereotypes when dealing with managers of major corporations. Conversely, audiences such as environmental activists and community stakeholders might view firms in terms of the overall impacts of their activities on social and ecological resources; therefore, these audiences might emphasize warmth stereotypes when evaluating firms. In addition, at entrepreneurial stages as well as emerging categories, when it might be difficult to ascertain what constitutes competence, audiences might be more likely to look for stereotypes that capture characteristics such as trust, dependability, and moral suasion; these adjectives are associated with warmth stereotypes.

Different audiences can hold varying stereotypes about the same firm group. This partly explains why some organizations are simultaneously admired and despised (Vergne 2012). Firms can count on having allies in audiences that admire them and antagonists in audiences that despise or envy them. Responses to categorical stereotypes reflect stakeholders' sentiments and the salience of contextual factors. While category members might not want to alienate their admirers, they might be forced by situational factors to concede to the demands of other audiences, including those that despise/envy them. Reliance on audiences for economic and social supports might also influence how firms respond to stereotypes held by different audience groups. Taking a stereotype-based approach to categorization enables scholars to delineate audiences based on how they label firm groups.

Understanding the types of category-based social actions and reactions will be beneficial for categorical literature in organization research. Up until now in organization theory, these actions and reactions have been delineated only along the valence dimension, i.e., harm versus facilitation. The intensity dimensions (i.e., active versus passive) have been ignored in the organization literature on categories. For instance, failing to provide coverage, a passive harm, is treated similarly to massive protests that can disrupt organizational activities, which will be an active harm (Piazza and Perretti 2015; Zuckerman 1999). Categorized firms and their audiences might respond differently to these varied patterns of actions. All things being equal, one set of actions might require more aggressive category realignment strategies than others. Piazza and Perretti (2015) argued that some resistance to a stigma drives organizations to abandon product categories rather than to mask the stigma through category spanning (Vergne 2012). Piazza and Perretti (2015) suggested that the intensity of audiences' actions plays a pivotal role in dictating organizational strategy. Taken together, Vergne (2012) and Piazza and Perretti (2015) showed that the intensity of audiences' actions is a key determinant of response strategies to negative evaluations. Grouped firms' behavioral responses to group affiliation depend on the valence and intensity of audiences' reactions to their categorical affiliations.

Chapter III

(De)Constructing Markets: Central Banking and Fragmentation of Foreign Currency Markets in an Emerging Country

> Following the policy declaration and execution, the different naira/dollar exchange rates in Nigeria as of February 21, 2017, are as follows: Pilgrims rate N197/$, PPPRA model rate N285/$, Budget 2017 rate N305/$, Interbank rate N315/$, International bank rate N319/$, Travelex rate N345/$, Special funds airlines N355/$, Western Union rate N375/$, Bureaux De Change N380/$, and Black Market N520/$. (*Vanguard Newspaper*, Nigeria, March 2, 2017)

Introduction

In the study of the global financial infrastructure, the struggles of countries at the periphery of the global financial architecture have been relegated to the background (Hájek 2017). As these nations become integrated into global financial markets, the risks posed by their economies to global economic and political landscapes cannot be overlooked. However, the theories generated from market activities at the hubs of global financial infrastructure might not apply to these emerging players; new theories might be required to make sense of markets outside the centers of globalization. The present study takes an early step in this direction by examining how the activities of the central bank of Africa's largest economy played out in foreign currency markets in the country.

By the fall of 2014, the writing was on the wall; Nigerian foreign currency positions were taking hits from the sharp decline in crude oil prices. The Nigerian government relies on crude oil earnings for a large portion of its revenue and most of its foreign currency earnings. Following years of high and stable crude oil prices and concomitant government spending in many crude oil exporting countries, the softening prices of late 2014 threatened the favorable economic climate in these countries. Nigeria, the largest crude oil exporter from Africa, was in the eye of the storm. In the little over two years that followed, local and international events exacerbated the dangerous economic and financial consequences of the reduced petrodollar inflow into the West African country. The year 2015 was an election year; this usually meant general local and international skepticism about investment climates in most emerging African democracies and, therefore, reduced foreign investments. In the same year, the deal by the major global political blocs to lift sanctions from the Islamic Republic of Iran meant that additional millions of barrels per day of crude oil were pumped into a global crude oil market that was already saturated. The implications of these developments were dire for the Nigerian foreign exchange markets, whose primary supply of foreign currencies was the nation's petrodollars. As in many recent financial crises, Nigeria's central bank came to the rescue. Between September 2014 and December 2017, the Central Bank of Nigeria (CBN) executed many drastic policy interventions to stabilize the foreign currency situations in Nigeria and restore confidence in the local currency, the Nigerian naira.

How the CBN dealt with the foreign currency crisis Nigeria faced in the adjourning period can be understood at the intersections of the new norm of central bank rules by exception, i.e., extraordinary policies, during economic crises and the centrality of hard currencies in the financial configuration of emerging economies such as Nigeria (Best 2018; Singer 2010). Facing an acute shortage of foreign currencies, the CBN adopted policies allocating scarce foreign currencies to some categories of economic activities and shutting out other categories of economic activities. The existence of alternative markets for foreign currencies in Nigeria amplified the ramifications of CBN categorization; this resulted in increasing price gaps between the official foreign currency markets operated or supervised by the CBN and the parallel markets that were beyond the ambits of the bank. As the exchange rate gap increased, the consequences for buyers without access to the official interbank market became precarious. The contentions with CBN policies were not so much that they created winners and losers, as all central banks' policies favor some segments of the population over others, but that they were unconventional; the policies did not follow the economic orthodoxies of central bank discourses (Best 2018). However, as Best (2018) aptly posited, central banks' rules by exceptions not only create uncertainties but also impugn on the credibility of central banks.

To understand the relations and developments in the foreign currency markets in Nigeria, I relied on Viviana Zelizer's concept of earmarking of money. Bradford (2015, 80) defined earmarking as "the setting aside of money because of its source or meaning or for specific consumption purposes." "Earmarking connects sources to targets so that particular monies generated through one set of activities are used to support or fund a specific end" (Carruthers 2010, 62). The CBN's actions in the foreign currency markets constituted a peculiar type of earmarking that matched foreign currency inflows from specific sources to activities in certain sectors of the Nigerian economy. The actions of the CBN not only fragmented the foreign currency markets the apex bank controlled but also had ripple effects on the parallel markets that were beyond the ambits of the bank. Carruthers (2010, 54) argued that "earmarking categorizes, distinguishes, and segregates otherwise fungible money by specifying particular sources (revenues) and targets (expenditures) for monetary flows; it gives the money particular significance." The peculiarity of the case explored in this study is that money earmarking is usually not pursued by central banks as an overt monetary policy by. In addition, the CBN's overtness led to different accounting values for identical and perfectly substitutable foreign currencies. Because the empirical settings of this study are the foreign exchange markets where the values of one currency are spelled out in terms of another currency, I was able to capture the differences in accounting values that were consequences of earmarking.

This study contributes to the categories in markets and sociology of money literatures. Organizational and economic sociologists often claim that categories are ubiquitous in markets; however, they usually follow up this claim by studying one category in their empirical settings as if to say all other forms of categorization hold constant. Recently, scholars have called for moving beyond seeing categories as cognitive constructs to the social processes of categorization that underscore the dynamic nature of categorization (Durand et al., 2017; Glynn and Navis 2013). The present study shows categorization as a dynamic process. Faced with a debilitating decline in the foreign currency inflows into Nigeria, the CBN balkanized economic activities in the country into different categories, conferred preferential treatments on some categories of economic activities, and barred other categories outright from participating in the official markets for foreign currencies. Beyond categorizing buyers in the markets, the CBN grouped sources of foreign currency inflows and matched them with different foreign currency markets. The interplay between the categories of buyers and those of inflows created dynamics that would have been difficult to anticipate ab initio. In addition, the foreign currency crisis made salient the distinctions between categories of foreign currency markets that had been latent. The parallel markets and the different official markets regulated by the CBN had similar exchange rates before things fell apart; at that time, it did not matter where actors participated as the markets quoted comparable exchange rates for major foreign currencies. As the foreign currency scarcity grew and CBN pegged exchange rates in the markets it regulated, the disparity in exchange rates increased, so categories of markets that had been unnoticeable became prominent. Similarly, the categories of buyers that existed before the crisis but had little implications for access to foreign currencies were leveraged to restrict access to official markets, and this condemned many buyers to the more expensive foreign currencies flowing outside the official channels. The conditions that make categories important have been barely explored in organizational sociology. There are usually many categories in markets; therefore, market actors cannot factor all the categories into their decision-making processes. The conditions that make some bases of categorization salient while others are relegated to the background are explored in this paper.

Secondly, this study shows the relational dynamics of earmarking in the foreign exchange markets. This empirical context is peculiar because monies are measured relative to other monies. Previous studies have been unable to show the import of earmarking on accounting values of money because money is often juxtaposed with other commodities or activities whose values are measured by money (Bradford 2015). This has led many scholars to separate the social meaning of money from its market meaning. The present study shows a situation where the social meaning of money affected its market meaning, i.e., its accounting value; the money earmarking by participants in the foreign currency markets in Nigeria led to different exchange rates for all major currencies that were traded in these markets. To the best of my knowledge, this is the first study that shows this relationship. In addition, the study demonstrates how relational/behavioral earmarking by one set of actors can result in cognitive earmarking by another set of actors. Zelizer and Tilly (2006) identified two types of earmarking: relational/behavioral earmarking and cognitive earmarking/mental accounting (Bradford 2015). The present study shows how the CBN's behavioral earmarking resulted in the fragmentation of the foreign currency markets. As other markets beyond the ambits of the CBN showed higher values for foreign currencies, foreign investors and local holders of foreign currency valued their foreign currency positions based on these other markets. Although many of them did not participate in the alternative markets, these foreign investors and local holders cognitively earmarked their foreign currency assets to those markets.

The remaining parts of the paper are structured as follows. I will review the literature on categories in the market with emphasis on the social processes of categorization. In addition, I will briefly summarize relevant portions of the literature on the sociology of money. The section after the literature review contains the data and methods. This section includes descriptions of the empirical setting, data collection and analysis, and findings of the study. The discussions and conclusion follow the data and methods section.

Categories in Market

Categories influence social life. The deluge of stimuli from social environments make categorization imperative for optimal cognitive functioning. Categories arrange these deluges of social stimuli into manageable and orderly systems; that is, categories serve a cognitive efficiency purpose. This cognitive efficiency is the basis for much of the management scholarship on market categories. Scholars have uncovered how the need for cognitive efficiency shapes the outcome in markets. However, categories occur in diverse forms and play multifaceted roles in markets. Cognitive efficiency is just one of the many functions of categories in markets.

To understand the diverse roles of categories in markets, scholars have called for a shift in focus to the social processes of categorization. For instance, cognitive efficiency perspectives often group actors according to their prototypical characteristics; producers produce, while audiences evaluate what is produced. Variations within these groups are relegated to the background, and similarities across groups of actors are overlooked. As Durand et al., (2017) aptly pointed out, manufacturers of electric cars and environmental activists, although belonging to different categories of actors, might share similar interests in legitimizing more climate-friendly transportation infrastructures. In addition, different market actors are assumed to be neutral or disinterested in evaluating actions, actors, and artifacts in markets. Audiences are not neutral observers that cognitively assess market artifacts based on the artifacts' proximity to some preestablished prototypes; they have interests that can lead to promotion and antagonism toward different market objects irrespective of their proximity to established prototypes (Vergne 2012). Similarly, present literature about organization categories often overlook the impacts of temporal dynamics and contexts on categorization (Durand et al., 2017). Contexts change over time and might impact how categorization unfolds. For instance, studies have shown that when audiences evaluate categories, they tend to be stricter with mature categories and more forgiving with emerging categories. Changes in context over time might make one set of categories more salient than others. In addition, latent properties that can serve as bases for categorical distinctions might become salient over time; conversely, important properties at one time might fall out of relevance at other times. For instance, a few years back, the capacity to produce electric cars was a salient base for categorizing car manufacturers; in a couple of years, that characteristic might become irrelevant as all manufacturers acquire this capacity to mass produce electric cars. The evolution of contexts over time influences the social process of categorization.

Durand et al., (2017) contended that the act of categorization is under-researched; that is, we have yet to explore what actors do when they categorize. For instance, of the plethora of ways actors can classify market artifacts, why and how do market actors settle on some limited sets of properties at a particular time? For example, firms can be categorized by product, i.e., their industry and market segment; by location, e.g., local versus foreign; or by production processes, e.g., sustainable versus non-sustainable. Current literature has not teased out when and why these different dimensions are activated as bases for market categories. This might be related to the interest of the categorizers and how these interests make some dimensions of categorization salient and other dimensions redundant.

Although studies claim that markets are riddled with categories, scholarship seems to focus almost exclusively on the producer categories. There are other essential bases for categorization in markets. For instance, to assess import duty payments, similar products are not only categorized based on whether they are local or foreign, but they are also categorized by specific geographical origins. In this scenario, the locations of production are at least as important to categorization as the types of products. Similarly, there are different categories of buyers and sellers for any given product; savvy organizations spend fortunes identifying buyers' categories. While markets are indeed replete with categories and current research focuses mainly on product categories, comprehensive understanding of the roles of categories in markets requires the exploration of other bases for categorization.

Money markets are arenas where the categories of the underlying products, i.e., monies, might not be as crucial as the categories of other actors and artifacts. State-backed monies are usually sufficiently standardized to make categorizing them beyond their accounting values redundant. However, different instruments anchored to monies can be categorized by constructs such as risks, market volatility, and tenor. Similarly, buyers and sellers in these money markets are categorized along different dimensions such as credit rating. The present case explores the dynamic categorization of sellers, buyers, and market arenas in the foreign currency markets in Nigeria to shed light on the social processes of categorization.

Earmarking and Categorization of Money

While classical sociologists were appalled by the monetization of the society and suggested that money destroys culture and social relations, contemporary scholars take more nuances, interactive and interpretative perspectives, to the role of money in the social arena. Witnessing the rapid acceleration of monetization, that is, “the increase in the proportion of goods and services bought and sold by means of money” (Zelizer 1997, 6), classical social theorists questioned the advancement of money. They exclaimed that money insidiously simplifies social relations; it impoverishes human interactions and social institutions (Carruthers 2010; Tognato 2012). In addition, money turned complex and intricate social problems and relations into boring arithmetic concerns (Zelizer 1997). Contemporary sociologists disagree with these bland and incomplete descriptions of money. These scholars assert that markets and their artifacts, such as money, are nested in the society and its broad systems of meanings and structures; that is, money shapes and is shaped by social structure and culture (Crump 1981; Tognato 2012). They contend that the universal fluidity and leveling that repulsed classical theorists was a mirage; institutions and social relations limit the boundaries of money (Crump 1981; Zelizer 1989; Zelizer and Tilly 2006). Viviana Zelizer’s pioneering works on earmarking showed how social meanings and structures transform hitherto fungible monies into sticky social artifacts. Earmarking is the categorization of monies by their source, use, or meaning.

Viviana Zelizer’s works on the social meaning of money are foundational to the contemporary sociology of money. Contrary to classical sociologists’ assertions that money destroys social institutions and impoverishes cultures, Zelizer argued that monies are controlled and restricted by cultures and social structures. She argued that people have attached meanings to different types of money, and these meanings are not just the figments of hallucinating minds (Zelizer

1997); that is, societies and subsets of societies earmark different dollars for different purposes in non-trivial ways. The concept of earmarking was central to Zelizer's arguments. Earmarking refers to the practice of designating different money for different purposes (Bradford 2015). The essence of earmarking is to control the use of money (Carruthers 2010). Monies are often earmarked based on their sources.

Earmarking influences how monies are spent. In addition, when institutionalized, earmarking creates evocative meanings for different segments of the society. The centralities of culturally derived meanings, on the one hand, and structurally determined sources and use of money, on the other hand, made Zelizer's concept of earmarking a robust structural and cultural concept. The meaning of money, in Zelizer's works, is grounded in culture. For instance, "clean" money acquired through honest means can be donated to a church while it would be inappropriate for some segments of the society to give "dirty" money, e.g., bribes, to God. Conversely, the sources and use of money are grounded in social structures. For instance, the supremacy of husbands' salaries to wives' pin money in the early 20th-century United States was partly due to the paternalistic orientation of that society. Similarly, while some low-level drug dealers might deem it inappropriate to donate drug-peddling money to God, Mafia bosses often launder the proceeds of their illicit activities by contributing to honest causes in religious establishments. Zelizer (1997) drew examples from different areas of domestic lives.

In this paper, I attempt to shed light on earmarking in the financial markets in Nigeria. Faced with the most debilitating economic and financial crisis in a generation, the CBN channeled foreign currencies from different sources to different national priorities. The CBN used its regulatory powers to keep these boundaries in place insomuch that equal amounts of foreign currencies were traded concurrently for different quantities of local currencies, i.e., different exchange rates. That is, the earmarking not only resulted in different social meanings but also heralded different accounting values. This earmarking was not just a blip; it was ongoing for over three years. In 2017, after successfully reducing the number of exchange rates to two from at least five in the preceding years, the CBN declared victory because its policies stabilized the foreign currency markets.

Types of Earmarking and Dynamic Categorization

Zelizer and Tilly (2006) identified the two types of earmarking as cognitive and relational. Cognitive earmarking is a form of mental differentiation or a cognitive mapping of money to different activities (Bradford 2015; Zelizer and Tilly 2006). This is a form of mental accounting that allocates specific money (e.g., wages) to specific activities (e.g., rent payment). Relational earmarking is a behavioral process that actively separates monies in support of social relationships. When people actively set aside monies for holidays, children's future educational needs, etc., they create behavioral patterns that reduce the fungibility of money. Bradford (2015) argued that relational earmarking supports behavioral processes that delineate monies into different spheres of activities. These behavioral processes create practices that promote social relations and establish the boundaries that reinforce earmarking activities (Bradford 2015; Zelizer and Tilly 2006). For instance, when specific sources of foreign currency inflow are routed to certain sectors of the economy, the practices that enact these allocations will create new relations and establish new boundaries that can potentially exclude other actors. When these relations and boundaries are reinforced, they congeal to discernable categories of activities. In this paper, I will refer to this type of earmarking as relational/behavioral (Bradford 2015). While the two types of earmarking can be interdependent, they can also occur independently; however, the processes that link them are still relatively unknown. Similarly, earmarking scholarship seems to assume that the two processes co-occur in the same set of actors. It is possible that in the same context, one set of actors is engaging in relational/behavioral earmarking while another set of actors is engaging in cognitive earmarking. These differences in earmarking approaches might be the consequences of the actors' relative power positions in the institutional contexts.

In her extension of Zelizer's relational sociology, Bandelj (2012) argued for the centrality of power in understanding economic actions as social actions. The roles that power and conflicts play in earmarking had been relegated to the background in the sociology of money. Although Zelizer and Tilly (2006) agreed that earmarking is a contested process that could create power relations as part of its outcomes, they were silent on how power shapes the results of contestations. Carruthers (2010) argued that power plays a crucial role in determining the outcomes of earmarking activities; for instance, powerful units within organizations often enjoy the lion's share of organizational budgets. In addition, citing Tilly (2006), Bandelj (2012) wrote that "the ability to give reasons without challenge usually accompanies a position of power." Powerful actors often make arbitrary decisions that result in the reconfiguration of the dynamics of relations in an institutional field. However, the limits of actors' powers and the contours of decision outcomes might be determined by the structure of the institutional field.

Zelizer and Tilly (2006) opined that relational earmarking shapes and is reshaped by existing social structures. Relational earmarking creates new structures of interactions within the institutionalized contexts. The outcomes of these relations can challenge or reinforce the existing institutional structures. When they strengthen existing institutional arrangements, they can solidify power relations in the institutional contexts; however, when they challenge the existing patterns of relations, they can lead to contestations. Zelizer and Tilly (2006, 27) asked, "What processes produce change in prevailing social boundaries, hence, the categories people use to organize their social lives?" The interactions between money earmarking and institutionalized relations can reshape power dynamics in an institutional field.

At its core, earmarking is a form of categorization. During earmarking, actors categorize monies via their meanings, sources, or uses. Social structures and cultural meanings impact these categorization processes. Few studies have examined the intricate methods of categorization dynamically. Existing studies take the cultural meanings and social structures that facilitate earmarking as given; this could be due to the nature of the empirical contexts of these studies. During market upheavals, such as currency crises, cultural meanings and social structures morph, and the stable becomes dynamic (Carruthers and Babb 1996). The research question of this study is: how do actors' relational and cognitive earmarkings result in the dynamic recategorization of buyers, sellers, and market arenas in the Nigerian foreign currency markets?

Data and Method

This study is a case study of the crisis that crystallized in the Nigerian foreign currency markets from the fourth quarter of 2014 to the end of 2017. The primary protagonist in the case study is the Central Bank of Nigeria (CBN). Before the crisis, there were multiple windows (arenas) for trading foreign currencies in Nigeria, but the exchange rates were within the globally accepted 5% margins. The CBN controlled and regulated three different windows: the Retail Dutch Auction System (rDAS), the Wholesale Dutch Auction System (wDAS), and the Interbank markets. The parallel markets for foreign currencies exist without any formal regulatory oversight. While the official markets account for most of the foreign currency transactions in the country, the parallel markets serve the informal economic sector in Nigeria; a significant proportion of the country's economic activities are in the informal sector of the economy (Medina and Schneider 2017; Schneider 2002).

The Central Bank of Nigeria (CBN)

In the lead-up to Nigeria's independence in 1960, the nation's House of Representatives passed the Central Bank of Nigeria Act of 1958. The CBN opened its doors on July 1, 1959. The Central Bank of Nigeria Act of 1958 and the Banking Decree of 1969 constituted the legal frameworks for the regulation of banking activities in Nigeria until 1986. In Nigeria, elected parliaments legislate "acts," while military governments enact "decrees." Following the adoption of the Structural Adjustment Programmes (SAP) in 1986, the military governments repealed the Banking Decree of 1969 and replaced it with the Banking and Other Financial Institutions Decree (BOFID) in 1991. In 1997, military officers in the government amended the CBN Act and the BOFID and effectively removed the limited de facto autonomy of the CBN; the amendment brought the CBN to be an agency under the Ministry of Finance.

As part of the drive to reform the nation's economic institutions, Nigeria's democratic government enacted the CBN Act of 2007 to repeal all previous laws and amendments associated with the 1997 decree and granted full autonomy to the CBN for all functions contained in the CBN Act of 2007 and the Banking and Other Financial Institutions Act of 2007. In addition, the CBN was responsible for managing the country's foreign currency export proceeds. The power to regulate the foreign exchange market was conferred on the CBN through the CBN Act of 2007 (as amended) and the Foreign Exchange (Monitoring and Miscellaneous Provisions) Decree of 1995. The CBN authored the Foreign Exchange Manual to regulate the foreign currency markets in the country.

Data Collection

The case described in this study is the fracturing of the foreign currency markets in Nigeria. Between the fourth quarter of 2014 and the fourth quarter of 2017, foreign currencies such as the

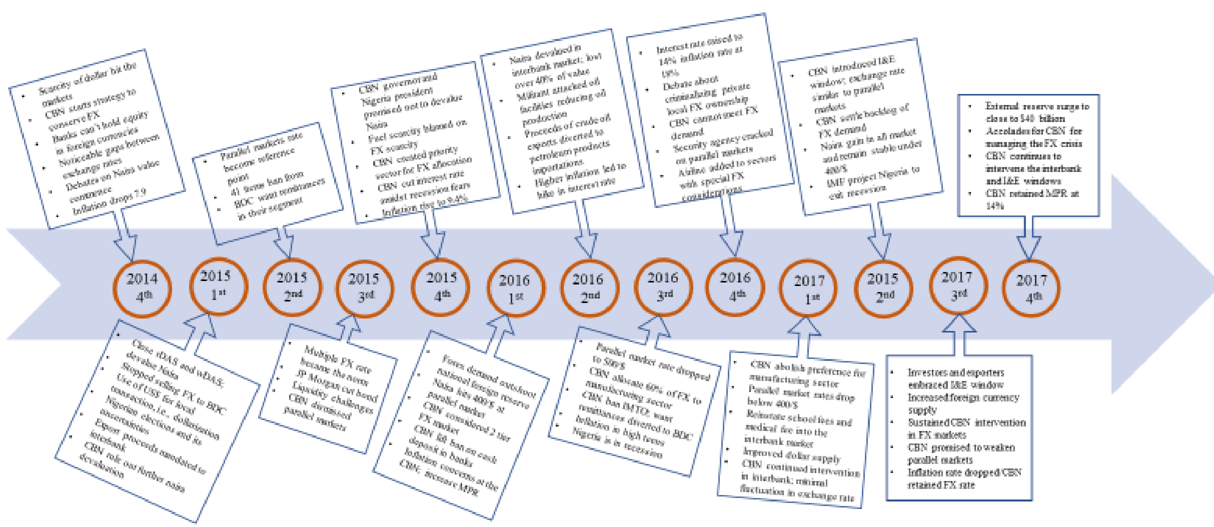
United States dollar traded concurrently for up to five different exchange rates. Before the foreign currency crisis, multiple market arenas (or windows, as the actors in the Nigerian foreign currency markets called the platforms for currency exchange) existed but were qualitatively similar on key market dimensions. For instance, exchange rates were similar, and most buyers and sellers participated freely across different windows. The CBN supervised three major windows for official market transactions: the Retail Dutch Auction System (rDAS), the Wholesale Dutch Auction System (wDAS), and the Interbank window. In both the rDAS and the wDAS, the CBN sold foreign currencies to the general public through authorized dealers. The difference between them was that in the rDAS, authorized dealers submitted multiple individual bids on behalf of the end users of foreign currencies, and in the wDAS, authorized dealers aggregated all the bids of their customers and submitted a single joint bid per trading session. The interbank window was the platform where authorized dealers traded foreign currencies among themselves; the CBN regulated this window and sometimes participated in it. Parallel markets operated outside the ambits of the law; Nigeria has one of the largest informal sectors as a proportion of GDP in the world (Schneider 2002); the parallel market mainly served this informal sector. The Bureau De Change (BDC) window was the CBN's strategic initiative to appeal to patronizers of the parallel market. Operators of the BDC sourced their foreign currencies from the CBN through the authorized dealers. While these five windows had historically enjoyed similar exchange rates, different exchange rates emerged across market arenas during the period of the case, and actors' free movements across the boundaries of the windows were severely restricted by the different developments in the markets.

The foreign currency market in Nigeria is an excellent empirical setting to study dynamic categorizations because of the relatively clear categories of market windows, buyers, and sellers of foreign currencies in the market. The categories of market windows are rDAS, wDAS, interbank, parallel market, and BDC. The sellers' categories include crude oil producing firms, the banks (who represent themselves as well as their customers, including foreign investors), the CBN, the retail holders of foreign currencies, and the international money transfer organizations (IMTOs) such as Western Union, Moneygram, and WorldRemit, which remit funds mainly from Nigerians living outside the country to Nigeria. Lastly, the CBN represents a powerful principal actor whose influence looms large over the market windows that account for the most significant volume of transactions in Nigeria's foreign currency market. The CBN's regulatory powers were such that it could create new categories of actors and market windows in the segments of the market it controlled; this case is partly based on how the CBN exercised such power and how the outcomes of its policies were shaped by the institutional structures of the foreign currency market in Nigeria. Under the new environment, categories of markets, buyers, and sellers that had been latent became salient.

CBN policies in the foreign currency markets are the units of my analysis. Recently, central banks have been the first line of defense during financial and economic crises. In addition, during these crises, central banks often implement extraordinary unorthodox policies (Best 2018). The CBN increased interest rates several times during periods of economic contraction in Nigeria, although it is more common for central banks to reduce interest rates during those times. In addition, the CBN redirected foreign currency inflows into specific markets and pegged the exchange rates in those markets; this is contrary to the principles of free flow capital across markets. The CBN also banned some actors from participating in the markets it supervised. These are examples of the extraordinary policies the CBN implemented during the foreign currency crisis in Nigeria. While I traced the CBN policies primarily through documents and videos available on the organization's websites, I also tracked responses from other stakeholders in the markets through the financial press and interviews of key actors in different market windows.

Temporality is partitioned chronologically into yearly quarters. The Monetary Policy Committee (MPC), the CBN decision-making organ responsible for monetary policies in Nigeria, meets quarterly; consequently, there was at least one monetary policy statement from the CBN every quarter. In addition, partitioning the case into quarters facilitated the understanding of the developments over the period of the case. I clustered the data about CBN policies and implementations by quarters. The case covered thirteen quarters, from the fourth quarter 2014 to the fourth quarter 2017 (inclusive). I tracked the policies and fallouts in each of these thirteen quarters to create the narrative for the case. Figure II represents the timeline of the case (Appendix I contains a detailed historical summary of the case).

Figure II: Timeline of Nigeria Foreign Currency Crisis 2014 – 2017



Data Sources

CBN documents and videos

The primary sources of data for the case were documents and videos from the CBN websites. Central banks are generally taciturn; however, in times of crisis, they often seek to engage the public to shape, frame, and inform financial discourses (Abolafia 2012; Best 2018). In addition, central banks generate several reports about their management of national monetary policies. All these preconceptions were right about the CBN. Statutorily, the CBN produces reports and policy documents touching on its activities in the different segments of the economy. It also produces journals about scholarly research its staff has conducted on the economic states of the country. These reports and policy documents served two purposes in this research. Firstly, they represented the CBN's attempts to garner public support for its unconventional policies. The foreign currency crisis affected many sectors of the Nigerian economy; therefore, the public felt the direct effects of the scarcity of foreign currencies through inflationary pressures and other adverse economic headwinds. Through its reports, the CBN attempted to allay the public's fears and assure them that it was up to the task of steering the national economy in the right direction. Secondly, the reports and policy documents contained details of the CBN policies and some major outcomes of these policies.

I downloaded documents from the CBN websites. These included monthly economic reports, quarterly economic reports, annual economic reports. I also downloaded communiqués of all the MPC meetings during the period covered by the case: thirteen communiqués in all. Similarly, I downloaded all policy memos that related to the foreign currency markets and all the monetary policy activities of the CBN during the period of the case. These documents included directives to the banks and memos about the operations of the local and foreign currency markets, policy initiation, and clarification. In addition, the CBN publishes foreign currency allocations from the different windows it supervises; these publications constitute parts of my data. I downloaded all documents related to the activities of the Economic Policy Directorate of the bank during the period of the case. In addition, I inspected all the documents from the CBN websites covering the period of the case to determine if they were related to the foreign currency market activities of the bank. I downloaded all press releases issued by the bank between June 2014 and December 2017. In all, my primary data consisted of over 12,000 pages of documents from the CBN website. Intent on getting its messages across, the CBN did not limit its outreach activities to press releases and reports on its website; the bank also conducted press conferences and its leaders made many public appearances to shape the narratives about the crisis. Many of these attempts were captured on video. I relied on the CBN YouTube® channel for the videos of these public events. I downloaded videos of all press conferences and interviews granted by CBN governor Mr. Godwin Emefiele during the period covered by the case (there are twenty-nine videos ranging from 47 minutes to 123 minutes) and transcribed them to complement the documents I downloaded from the CBN website. These documents and videos constitute my primary data sources. I used the interview data and the news reports to triangulate my data.

News reports

To corroborate my primary data source, I used Factiva to search for news on Nigeria's foreign currency crisis. My search covered the period of the case, i.e., from the fourth quarter 2014 to the fourth quarter 2017 (inclusive). I refined my search to reduce duplications, but there are some duplicated news stories in the final data. I matched the CBN press releases and policies to the news coverage about them to understand other actors' reactions in the foreign currency markets to the CBN policy directives; that is, I built the networks of news coverage around the different policy interventions of the CBN to understand how the financial press reported the reactions of the potential winners and losers of each policy initiative. In addition, the CBN often conducted press conferences to herald and clarify its policies. For example, when the bank banned some international money transfer organizations (IMTOs) from operating in the country, both the bank and the affected IMTOs were in the news making their arguments to the Nigerian public. Altogether, I collected and analyzed over 5,000 pages of news articles and reports relating to developments in the Nigerian foreign currency market.

Interviews

I interviewed key actors in the Nigerian foreign currency markets. I visited Nigeria for four months, scattered over three visits, to collect data. Three of the four organizations I went to speak with were commercial banks, and the fourth one was a crude oil producing company. These types of organizations were responsible for most of Nigeria's official foreign currency transactions; while commercial banks were the only authorized dealers in the official interbank market, the proceeds from crude oil sales were the primary sources of foreign currencies in the official markets. The analysis of my preliminary interviews with key employees of these organizations changed the direction of my study and led to this case on the foreign currency market in Nigeria; it was my practice to analyze interview data while continuing with the interviewing process to generate new questions and points that needed clarification. The data analysis from the CBN documents and financial press raised pertinent questions for which I sought clarification during interviews with key stakeholders in the Nigerian foreign currency market. For instance, the CBN policy redirecting the foreign currency proceeds from crude oil sales exclusively to a new window that served the importers of petroleum products seemed surreal given that the proceeds from crude oil sales were the most important sources of foreign currencies in the interbank window.

In addition to questions about the CBN policies and news reports, I sought the opinions of these stakeholders during my interviews. I asked about their personal foreign currency market activities, anecdotes, and opinions about the impact of CBN policies on foreign currency markets and the economy at large. At the banks, I interviewed currency traders with years of experience navigating the nation's official foreign currency markets. When I had interviewed a couple of traders, they referred me to others, and I continued to interview more actors in the market. In addition, they directed me to resources that facilitated my understanding of foreign currency market developments in Nigeria. At the oil producing companies, I spoke to staff in the government relations and international trade departments. I also used snowballing among the staff of oil producing companies to generate interview leads. I kept detailed personal notes of observations during the interviews. In all, I conducted fifty-three interviews with different stakeholders in the foreign currency market. Details of my data are in Table I.

Table I. Data Sources

S/No	Data Source	Description	Volume
1	Documents from CBN	Documents including Monetary policy committee reports, monthly reports, quarterly reports, annual reports, foreign currency allocation reports, industry reports, policy initiation and implementation memos, directives to banks, scholarly publications, and educational materials	12,655 pages
2	Documents from FMDQ	Documents including market activity reports, financial markets monthly review, market regulations for spot markets and future markets	515 pages
3	Newspapers reports	Newspaper reports covering activities of stakeholders in all the foreign currency markets in Nigeria from 4th quarter 2014 to 4th quarter 2017. This includes reactions to CBN press releases, debates and opinions about issues relating the foreign currency markets and Nigeria economy during this period.	5,568 pages
4	Other sources	Web pages including expert commentaries relating to the foreign exchange markets in Nigeria between 2014 and 2017; interviews of key actors in the nations' foreign exchange; Documents, experts' reports, transcripts of legislative hearings on the Nigeria's foreign exchange market	1,285
5	Interviews	In-person and over-the-phone/skype interviews lasting between 30 minutes and 2 hours; interviews are with currency traders that trade in the interbank market, executives of parallel markets associations, officers in government relations in the oil and gas industry, executives of private equity firms, executives of importing and exporting firms	53 interviews

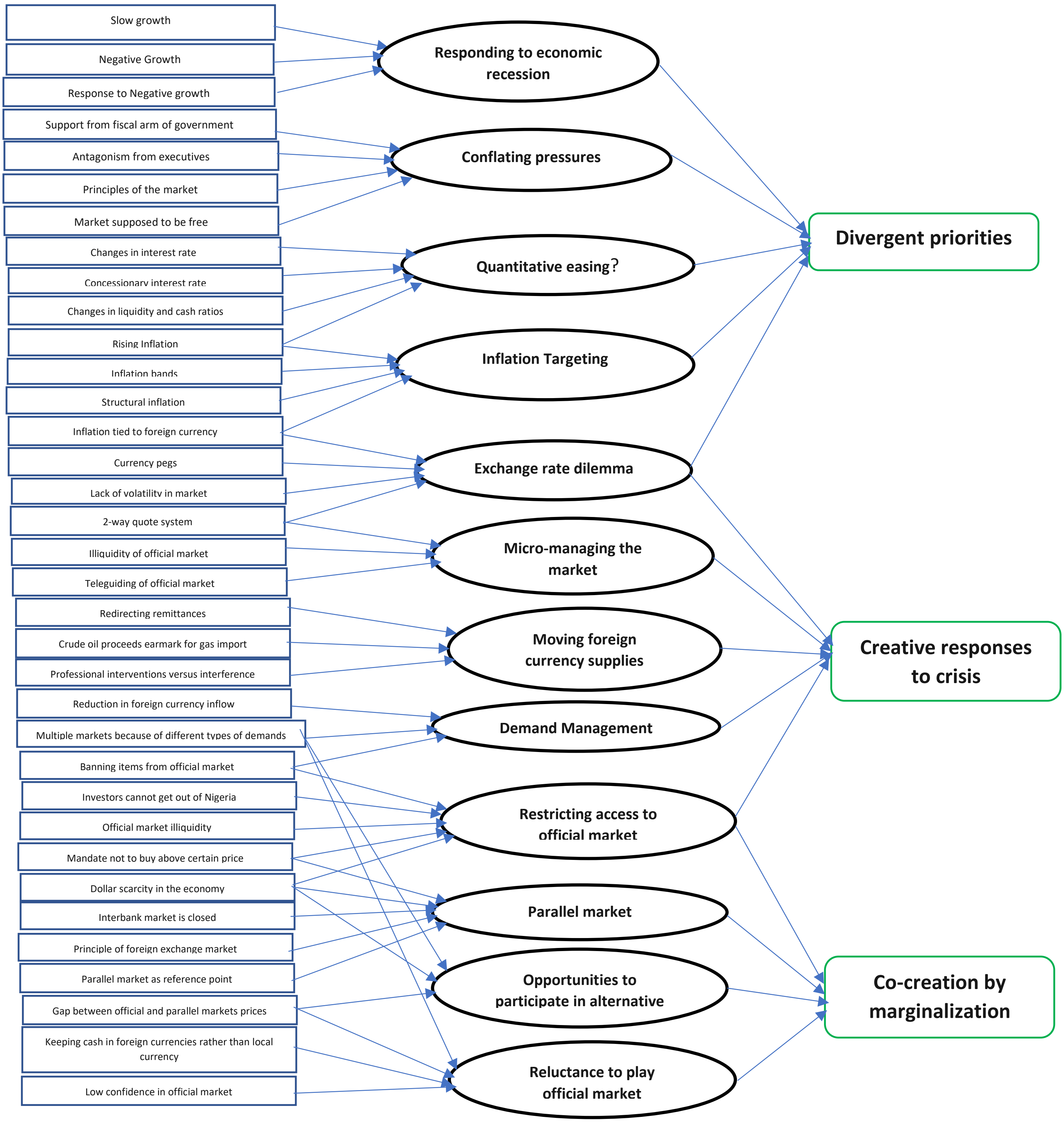
Data Analysis

After shifting the focus of data collection and analysis to the CBN and its policy documents, I sought to understand the role of the organization in the Nigerian foreign currency markets. First, I read through the documents to understand and isolate different CBN initiatives in the foreign currency markets; this included monetary policy moves that could increase or decrease the supply of Nigerian naira in the economy in general and foreign currency markets in particular. Having isolated the different CBN policy initiatives and pronouncements, I crosschecked them with press reports to understand how the public, as well as the potential winners and losers of these policies, responded to them. I also read through the news articles gathered through Factiva to ensure that I did not miss any of the CBN's policy decisions. Finally, I created nodes of policy initiatives and corresponding news coverages; that is, I connected the different policies to the news coverage about them to form data nodes. These nodes formed the basis of my data analysis. After analyzing these nodes, I created a second set of interview questions (mostly for clarifications and verifications) that I posed to the different stakeholders in the foreign currency markets.

I employed an iterative approach in the data analysis; I constantly moved back and forth between the data and literature to understand what was going on in the data (Corbin and Strauss 2008; Gioia and Chittipeddi 1991; Glaser and Strauss 1967). I read through data sources several times to have a firm grasp of the key events and developments. I did not code the data during the initial read-through. In subsequent readings, I started assigning labels to the emerging themes (Abolafia and Hatmaker 2013). I focused on the arguments and the counterarguments of the promoters, supporters, and antagonists of the CBN policies. In addition, I focused on policy shifts, e.g., when the Monetary Policy Committee (MPC) changed the benchmark interest rate or when the CBN redirected foreign currency inflows from sources to different markets. These crucial decisions captured the behaviors with market-wide consequences. I assigned names to these codes on NVivo software to organize my thinking on these open-coding processes. I continued open coding until I achieved theoretical saturation, that is, when new themes seemed not to be emerging from the data (Balogun, Bartunek, and Do 2015; Boiral 2003; Gioia, Corley, and Hamilton 2012).

From this open coding, I moved to higher-level coding, or axial coding. I compared codes to one another using constant comparison mechanisms (Corley and Gioia 2004; Gioia, Corley, and Hamilton 2012). I pictured the code in different ways and divided the codes into multiple patterns to see the different dimensions of my analysis. As I did this, I constantly consulted the organizational categories and earmarking literatures to gain insights into the actions of actors in these markets. I tried to get new perspectives on the data. Closer looks at the codes showed that the CBN attended to the needs of different stakeholders in the markets. The urgency of these needs seemed to increase as the slow growth rates turned into a recession, and the foreign currency scarcity persisted. As pressure increased on the CBN to balance the requirements of these different stakeholders, the CBN was forced to juggle its responsibilities creatively. This led to the three mechanisms of divergent priorities, a creative response to the crisis, and co-creation by marginalization. Figure III represents my data structure.

Figure III: Data Structure



FINDINGS

Divergent Priorities

The CBN Act meant that the bureaucracy juggled multiple responsibilities. Through the Monetary Policy Committee (MPC), the CBN is responsible for managing national monetary policies. In addition, the CBN also coordinates the nation's foreign currency portfolios. The Foreign Exchange (Monitoring and Miscellaneous Provisions) Act stipulates that the CBN should manage these foreign exchange portfolios in conjunction with the Ministry of Finance. The objectives of these different goals are not necessarily conflicting. However, during lean periods, the capacity to meet these different objectives might be compromised. In addition, during the crisis, managing one priority might conflict with attending to other priorities.

Economic slowdown

Following a slowdown in global commodity prices, the relatively high growth rates Nigeria witnessed in the early years of the 2010s cooled off and turned to negative growth rates in 2016. The practice known globally as "quantitative easing" is considered the first response to recessionary forces. As Nigeria's growth rate began to recede, the MPC noted:

> Output growth in the first half of 2015 trended downwards from the level in the fourth quarter of 2014, mainly on account of softening oil prices. According to the National Bureau of Statistics (NBS), real GDP grew by 2.35 percent in the second quarter of 2015, a significant decrease when compared with the 3.96 and 6.54 percent in the preceding quarter and the corresponding period of 2014, respectively. Real GDP growth is projected by the National Bureau of Statistics (NBS) to stabilize at 2.63 percent in 2015, compared with the 6.22 percent recorded in 2014. (MPC communiqué, September 2015, 5)

Central banks are the first line of defense against recessionary pressures because of the ease and swiftness with which they can respond to the crisis with monetary policies; fiscal responses in most democratic states take longer because of necessary legislative processes (Best 2018). While it has become the imperative of the central banks to respond to recessionary pressure, the CBN gave mixed signals in its response:

> In the light of the foregoing, I would like to propose a reduction in the consolidated CRR by 600 basis points to 25 percent while the MPR and LR are maintained at the subsisting rate of 13 and 30 percent, respectively. In addition, the symmetry corridor of 200 basis points around MPR should be retained. (MPC communiqué, September 2015, 44)

The CBN could not respond aggressively to the nation's first recession in close to three decades because of its other priorities; one of these priorities was inflation management.

Inflation targeting

Another seeming global consensus among central bankers is the adoption of inflation targeting as the premier policy objective of central banking (Best 2018; Braun 2016; Maman and Rosenhek 2009). After toiling with many policy objectives such as full employment, an increasing number of central banks are now, more than ever, preoccupied with managing inflationary pressure through generic policies christened "inflation targeting." The essence of the policy is to maintain a country's inflation rates within an acceptable predetermined range. Central banks perform monetary policies to keep the inflation rate within this range. The CBN has an inflation target of 6–9% for the Nigerian economy.

> If you are in our situation, you have created a band that is between 6 and 9 percent. And you are faced with an attempt to either depreciate your currency that will lead to

> a price increase or the alternative which you are adopting, which is, we look inwards, where you've seen the evidence pointing to the rise in prices. (CBN governor)

Nigeria was not only experiencing slow growth but also facing inflationary pressure. Usually, when a country goes into recession, the nation experiences deflationary pressures, and a monetary policy regime that reflates the economy (e.g., lowering interest rates) also addresses the economic slowdown (Hájek 2017). When recession and high inflation co-occur, it is referred to as stagflation: one of the most intransigent macroeconomic problems. In Nigeria's case, as in most cases where a central bank has faced inflation and recession, the CBN chose to fight inflation over the recession (Abolafia 2012). Following this pattern, it decided to deal with inflation by instituting monetary tightening measures. In the communiqué for the Monetary Policy Committee meeting of July 2016, the bank noted the following on GDP:

> Data from the National Bureau of Statistics (NBS) indicate that domestic output in the first quarter of 2016 contracted by 0.36 percent, the first negative growth in many years. … Aggregate output contracted in virtually all sectors of the economy. (MPC communiqué, July 2016)

Regarding inflation, the MPC said:

> The Committee noted a further rise in year-on-year headline inflation to 16.48 percent in June 2016, from 15.58 percent in May; 13.72 percent in April, 12.77 percent in March, and 11.38 percent in February 2016. …
>
> The arguments in favor of growth were anchored on the premise that the current inflationary episode was largely structural. In particular, members noted the prominent role of cost factors arising from reform of the energy sector, leading to higher domestic fuel prices and electricity tariffs and **prolonged foreign exchange**

shortages arising from falling oil prices leading to higher inputs costs, domestic fuel shortages, increased transportation costs, security challenges, reform of the foreign exchange market reflected in high exchange rate pass-through to domestic prices of imports. … The MPC, in putting forward for tightening, considered the high inflationary trend, which has culminated into negative real interest rates in the economy. Noting that this was discouraging to savings, members also noted that the negative real interest rates did not support the recent flexible foreign exchange market as foreign investors' attitude had remained lukewarm, showing unwillingness in bringing in new capital under the circumstance … . Consequently, members were of the view that an upward adjustment in interest rates would strongly signal not only the bank's commitment to price stability but also its desire to gradually achieve positive real interest rates….

The Committee's Decisions

The MPC, recognizing that the bank lacked the instruments required to directly jumpstart growth and being mindful not to calibrate its instruments in such a manner as to undermine its primary mandate and financial system stability, in assessment of the relevant issues, was of the view that the balance of risks remains tilted against price stability. Consequently, five (5) members voted to raise the Monetary Policy Rate (MPR) while three (3) voted to hold.

In summary, the MPC voted to increase the MPR by 200 basis points from 12.00 to 14 percent. (MPC communiqué, July 2016 [emphasis added])

It appeared that the priorities of the CBN diverged significantly. On the one hand, the CBN as the first line of defense against recession in Nigeria needed to pursue quantitative easing policies that would increase money supply while, on the other hand, the CBN's inflation targeting policy meant that it should pursue policies that reduce money supply in the economy because inflation was significantly above the targeted range (Maman and Rosenhek 2009; Weber and Schmitz 2011). To compound the CBN situation, in an unprecedented move, the Minister (Secretary) of Finance called on the CBN to pursue a quantitative easing policy:

> We will like to see the interest rate increase that happened in the last meeting be reconsidered; at the moment in the Nigerian economy, growth is what is most important. (Mrs. Adeosun, Finance Minister, Bloomberg, Sept. 9, 2016)

The MPC rebuffed this call. At the root of the inflationary pressure was the importation of raw materials and finished goods. As the exchange rates increased, the prices of imported raw materials and finished goods increased; to pursue its inflation-targeting policies, the CBN had to do something about the exchange rates.

Foreign exchange and inflation

Nigeria is an import-dependent country. A significant number of goods that make up the inflation basket are either not produced in Nigeria or have critical raw materials that are imported into the country. To effectively control inflation, the CBN had to intervene in the foreign currency markets.

> The MPC observed that the incessant pressure on consumer prices continue to come from structural factors including high cost of power and energy, transport, and production factors, as well as rising prices of imports. (MPC communiqué, Nov 2016)

However, pegging foreign exchange rates is against the fundamental economic principle of free market espoused by economists working in central banks (Kalinowski 2013; Stiglitz 1999; Van Gunten 2017). In addition, the nation's foreign currency reserve was declining, and the CBN did not have sufficient foreign currencies to meet foreign currency demands from the economy and defend the naira. Faced with the dilemma to either accede to the market principles of free float currency or manage the foreign currency rates to curb inflation, the CBN decided to peg naira exchange rates. While this was consistent with the inflation-targeting policies espoused by many central banks, it was against the principles of free markets espoused by key stakeholders inside and outside the CBN.

Predictably, the global investment community was not amused by the exchange rate pegs. Investors complained of the artificiality of the exchange rates and the challenges this action posed to liquidity in the official interbank window. In September 2015, JP Morgan announced that Nigeria would be delisted from the emerging markets bond index tracked by many emerging market funds; the currency peg influenced the JP Morgan decision.

Creative Response to Crisis

Demand management

Faced with the shortage of foreign currencies, the CBN decided to implement a broad range of policies it called demand management.

> The third part is demand, with demand management, which we are also working on. So, the question is, are they working? My answer is yes. The demand management arises from the exclusion [the import restrictions]. (CBN governor)

The CBN's decision to peg the naira exchange rates and the resultant removal of Nigeria from JP Morgan's emerging markets bond index meant that foreign investors were wary of bringing investible funds into Nigeria. In addition, the difference between the pegged exchange rate and the three-month naira-USD future was at its highest, meaning that investors were betting on the naira devaluation. The local populace was also content with holding foreign currencies instead of the naira, whose future value was uncertain. All these factors left the CBN with few options for increasing the supplies of foreign currencies in the interbank market; therefore, the CBN focused on the demand side. It created policies that prioritized some sectors of the economy over others; that is, some sectors received concessionary foreign exchange rates while others were simply excluded from participating in the interbank market.

Banning access to the official interbank market

In a sweeping policy, the CBN released a list of 41 items that were not allowed to participate in the interbank market:

> But let me tell you, these are not import restrictions; they are foreign exchange exclusions … . There are other major items on the forty-one-item list. We have rice, we have fish, we have textiles, we have tomato paste, and we also have palm oil. (CBN governor)

The bank argued that those items could be produced in Nigeria, and the nation need not spend scarce foreign currencies importing them. However, unlike previous import substitution policies where the government either increased tariffs on items or banned their importations outright, these items were simply precluded from participating in the interbank market. This resulted in the demand for foreign currencies to import these "not eligible for official FX" items to be fulfilled through other foreign currency spot markets. In addition, the CBN retroactively added other categories of economic activities to the categories of activities banned from the interbank.

The significant divergence in exchange rates between the interbank and parallel markets made the decision to exclude those items consequential.

In banning these items, the CBN displayed a peculiar type of relational/behavioral earmarking; rather than designating items that were included in the market, the CBN listed items that were excluded. Most earmarking arguments focus on the pattern of inclusions, and exclusions are merely by-products of the inclusion decisions. The ability to create rules that exclude actors is rooted in power as wielded by the CBN (Bandelj 2012; Carruthers 2010). The CBN's unchallenged power in the interbank markets drastically reduced the fungibility of money traded in the market by installing relational boundaries that cut off groups of select items and actors.

Matching proceeds of crude oil exports with importations of refined petroleum products

Importations of refined petroleum products, such as premium motor spirits (PMS) and automotive gas oil (AGO), account for a significant portion of the nation's demand for foreign currencies.

> I was working and talking with someone from Bloomberg about ten days ago, and we were analyzing the foreign currency demand in Nigeria and we brought it to the fact that 60% of our foreign currency demand is on importation of AGO and other refined petroleum products. (FX Trader 1) (translation modified)

Availability of petroleum products is a hot-button political issue in Nigeria; it is an important barometer for measuring government performance in the country (Siddig, Aguiar, Grethe, Minor, & Walmsley, 2014). Since the four refineries in the country were operating below capacity, and even at full capacity they can only service 63% of the national demand for petroleum products, the country relies heavily on imported petroleum products. However, historically, the government has set the price ceilings for petroleum products. Fixed local prices and reliance on imports meant that the government must guarantee a fixed exchange rate for fuel importation. While the price ceilings came from the fiscal authority, the responsibility for implementing this policy was with the CBN as the manager of the nation's foreign exchange policy. The CBN pegged USD exchange rates at approximately 200 naira to 1 USD. In a memorandum that signaled an upcoming change in policy, the government pegged exchange rates for fuel importation at 285 naira for 1 USD. To ensure foreign currency supply at that rate, the CBN mandated fuel importers as the preferred buyers of the foreign currency proceeds of crude oil sales by international oil companies operating in Nigeria:

> The CBN took off about 85% of FX inflow in the form of oil proceeds and has created a new market for funding petrol import. No one knows who trades at this market and at what rates. This market is not transparent and could encourage leakages. … The CBN should simply end all these market disruptions and allow the IOCs and oil service companies to sell to the banks. The CBN has drained the interbank FX market of dollar flows and yet expect the rate to be stable. This is paradoxical and conflicting. The sources of FX inflow left with the banks are export proceeds and foreign investments. (Bola Koko, FMDQ CEO)

The policy exacerbated the supply shortage in the official interbank markets. Not long after the memorandum on the exchange rate for petroleum products, the CBN relaxed its policies on pegging; the CBN claimed that the USD now floated freely. However, the prices have remained within a window: between 305 and 315, lacking volatilities associated with free-floating currencies. In the words of one foreign currency trader:

> Normally, if the market is as free, you can buy at any price and as long as you think you can sell it. But as things are today, the dollar is currently at over 450 (at the

> parallel markets), but as a regulated firm, we are not supposed to buy above a particular level (price); our prices are supposed to reflect the true values of naira, and the naira is valued at a fixed rate, and it is a violation if you go above that fixed rate to buy. (FX Trader 2)

Channeling remittances

The CBN's actions and policies were not solving the problem of scarcity of foreign currencies in the polity (especially the foreign currencies traded within the official markets). Like other emerging countries, Nigeria receives sizeable inflows of foreign currencies in the form of inward overseas remittances. Because of the wide gap between the official exchange rates and parallel market exchange rates, most of these remittances were routed through a parallel market-based exchange mechanism. The CBN lamented the use of parallel market exchange rates by international money transfer organizations in a press release that partly stated:

> The attention of the Central Bank of Nigeria (CBN) has been drawn to the increasing patronage of illegal money transfer operators by Nigerians in the diaspora for the purpose of home remittances.
>
> These unscrupulous operators, who lure unsuspecting customers with ridiculous exchange rates, use naira accounts opened in local banks ostensibly for legal business to pay out the proceeds to the beneficiaries while channeling the foreign currencies to fund the parallel market.
>
> This practice has led to non-reporting of such transactions to relevant authorities, thereby undermining effective surveillance of the sector as well as leading to discrepancies in statistics on the transactions between countries of origin of remittance and the destination country, Nigeria. (CBN Circular)

In efforts to increase the foreign currency supplies in the official interbank market, the CBN issued a circular stopping the operations of international money transfer organizations using the parallel market exchange rate. The press release read in part as follows:

> The Central Bank of Nigeria (CBN) wishes to advise Nigerians at home and in the diaspora to beware of the unwholesome activities of some unlicensed international money transfer operators (IMTOs) in Nigeria.
>
> This warning has become necessary because of the activities of some unregistered IMTOs, whose modes of operation are detrimental to the Nigerian economy. (CBN Circular)

In an earlier guideline for international money transfer, the CBN stated:

i) All in-bound money transfers to Nigeria shall be disbursed to beneficiaries who operate a bank account….
ii) Mode of settle shall be as agreed by the parties.
iii) The rate shall be the **prevailing interbank rate.** (bold in original)

Ismail Ahmed, the CEO of WorldRemit, one of the leading IMTOs servicing Nigeria, said:

> This move is arbitrary, inexplicable, and hugely detrimental to the Nigerian diaspora who rely on hundreds of money transfer companies and banks, providing them with choice, convenience, and competitive pricing.
>
> Even now, as we suspend our service, there is no clarity on why this sudden change has happened. If it is on the basis of new rules, there was no warning. If it is a re-interpretation of old rules, local correspondent networks and banks should have been forewarned. (*ThisDay* Newspaper, Nigeria, August 2, 2016)

After several uproars about the policy and the threat that there may be a significant reduction in the over thirty-billion-dollar-a-year remittances, the CBN soft-pedaled and issued another circular that directed remittance inflow to a different window: the Bureau De Change (BDC). The circular read in part:

> In the continued effort to ensure the stability of the exchange rate and to encourage participation of all critical stakeholders in the foreign exchange market, authorized dealers who are agents to approved international money transfer operators are hereby directed to sell foreign currency accruing from inward money remittance to licensed Bureaux De Change Operator (BDCs) with effect from the date of this circular. It should be noted that all international money transfer operators are required to remit foreign currency to the agent banks for disbursement in naira to the beneficiaries while the foreign currency proceeds shall be sold to the BDC. (CBN Circular)

The BDC window has a lower valuation for the naira than the interbank market has; that is, remittances exchange for a higher volume of naira at the BDC window than at the interbank window.

> Following the policy declaration and execution, the different naira/dollar exchange rates in Nigeria as of February 21, 2017, are as follows: Pilgrims rate N197/$, PPPRA model rate N285/$, Budget 2017 rate N305/$, Interbank rate N315/$, International bank rate N319/$, Travelex rate N345/$, Special funds airlines N355/$, Western Union rate N375/$, Bureaux De Change N380/$ and Black Market N520/$. (*Vanguard* Newspaper, Nigeria, March 2, 2017)

Prioritizing key sectors

When the different measures put in place to increase foreign currencies supplies in the interbank market were not effective, the CBN identified sectors of the economy that it considered “key” and prioritized foreign currency allocation to them. The CBN instructed banks to allocate 60% of the foreign currency traded in the interbank markets to the manufacturing sector for importing raw materials and machineries. The apex bank argued that this was in line with the developmental objectives that the CBN governor had set out in his vision for the bank. In a circular published in July 2016, the CBN stated:

> Following the review of returns on the disbursement of foreign exchange to end users, it has been observed that a negligible proportion of foreign exchange sales are being channeled toward importation of raw materials for the manufacturing sector.
>
> Against this background and in order to address the observed imbalance, authorized dealers are hereby directed to henceforth dedicate at least 60% of their total foreign exchange purchases from all sources (interbank inclusive) to end users strictly for the purposes of importation of raw materials, plants, and machinery. The balance of 40% should be used to meet other trade obligations, visible and invisible transactions. (CBN circular to banks, 2016)

When many foreign airlines left the country to neighboring Ghana and domestic airlines were at risk of defaulting on their insurance premium payments, the CBN felt compelled to include the airline sector among the “key” industries.

> The forex concession was recently granted to the airlines by the Central Bank of Nigeria as a result of the intervention of the Minister of State for Aviation, Senator Hadi Sirika.

> The statement by Usman said: “This is to further engender market confidence, ensure access to forex by the airlines, and sustain the integrity of the Nigerian interbank forex market.” (*BusinessDAY* Newspaper, October 17, 2016)

The CBN’s actions were showing a classic earmarking of money in that they matched the different sources of inflow of foreign currencies to different usages: the proceeds from crude oil sales were matched with petroleum product importation; the remittances were matched with the BDCs; and the remaining sources, such as the non-oil exports’ proceeds, FDIs, and FPI were channeled through the interbank market. While this may seem only to be relational/behavioral earmarking, cognitive and structural factors played vital roles in matching sources of foreign currency inflows to their uses. The remittances from Nigerians living outside the country were matched with a market that catered to the Nigerians who might want to travel out of the country for business or pleasure. While the CBN did not use the congruence of the two activities in its justifications, it is likely that it played into the thinking of decision makers. In addition, the proceeds from sales of crude oil were also matched with the importation of refined petroleum products. Like the remittance case, the congruence of these sources of foreign currency inflow and the usages of foreign currency inflow would have made it easier to justify to a public that seemed uncertain about the CBN’s activities in the foreign currency markets (Tognato 2012). Similarly, the CBN created some relational rules in the markets that rendered the proposed boundaries of the interbank market irrelevant. Firstly, the apex removed the major source of foreign currency inflow into the market, that is, proceeds from crude oil sales, thereby limiting the volume of foreign currencies traded in the market. Secondly, it allocated 60% of the remaining foreign currencies in the market to “key” sectors designated by the bank. These different acts of categorization resulted in the de facto players in the interbank markets being a fraction of the actors that could legitimately participate in the interbank market.

The sidelined actors participated in the parallel markets with different exchange rates; that is, not only did actors from different sectors enjoy differential access to markets, they also faced different prices for the ostensibly identical foreign currencies. Many earmarking situations entail money with similar accounting values; this may not always be the case when monies are used to purchase monies, as in the case of foreign exchange markets. For instance, during the unification of West Germany and East Germany, the conversion rate of the East German mark to the West German Deutsche mark was subjected to earmarking processes that created different exchange rates for different quantities of the East German mark (Tognato 2012). During political and economic crises, monies become objects of contestations (Carruthers 2010; Carruthers and Babb 1996). The present study shows that this contestation can have far-reaching effects on different properties of monies, and those properties include the accounting values of money (Hájek 2017). In addition, earmarking in the interbank market balkanized the buyers in the market into three categories of actors: key sectors (that got preferential treatment), pariah sectors (that were not allowed to participate in the market), and other actors that did not fall into these two categories. The CBN not only matched foreign currency inflow sources with markets, but it also created categories within the markets. The hierarchy of sectors in the interbank market created additional layers of dynamic relations in the markets. For instance, while the pariah sectors knew that their access to the market had been cut, the actors that belonged to neither the pariah sectors nor the key sectors enjoyed complicated relations with the market; they could participate in a market where their demands would be treated as secondary. The position of the key sectors was opposite to those of the other sectors; they relished their preferential status in the market. During the crisis, it was not unusual to hear the manufacturing group representatives in Nigeria complaining to the CBN about the allocation of foreign currency to members of the manufacturing sector; the illiquidity of the interbank market constituted an additional layer of complexity to the market dynamics.

> The Manufacturers Association of Nigeria (MAN) says the Central Bank of Nigeria (CBN) needs a useful monitoring framework to checkmate any incongruous Forex activity in commercial banks. The president of the association, Dr. Frank Jacobs, said this in an interview with reporters in Abuja.
>
> He said that the current government made some efforts at addressing the challenges in the economy, adding that the policy actions implemented so far had not addressed the challenges. According to him, CBN's directive to commercial banks was to allocate 60 percent of all available Forex to manufacturers for raw materials and machinery importation. Many manufacturers who applied for Forex, based on the directive, did not get any as the bankers claimed that Forex was not available. (*The Tide* Newspaper, October 26, 2016)

This statement shows the certain sense of entitlement that the manufacturers enjoyed in the interbank market. The categorization of actors in the interbank markets had important consequences for relations within this market.

Rather than ameliorate the foreign currency crisis, the CBN policies exacerbated the situation. Foreign currency became increasingly scarce as investors were wary of the Nigerian economic environment—this severely impaired liquidity in the interbank market. During the period of the case, the naira-USD future market reflected that the naira was expected to trade at a value of 50% less than the official value. Investors argued that bringing foreign direct investments (FDIs) and foreign portfolio investments (FPIs) into Nigeria was tantamount to writing-down 50% of their investments. It was not just foreign investors that believed the naira was overvalued; Nigerians with foreign currencies positions refused to sell at the official rate. The situation was so dire that the commercial banks in Nigeria threatened to reject foreign currency deposits from their customers. Aside from the volume of foreign currencies the banks were receiving, another dilemma the banks faced was how to value the foreign currencies. The CBN governor said:

> [We have] a situation where the bank vaults are full with cash, and then banks on their own said, "We don't want the dollar cash because we don't know how to get real value for those dollars sitting in our vault." (CBN governor)

Although the CBN seemed to deem the decisions of the Nigerian owners of foreign currencies to maintain their foreign currency positions as irrational, their preferences were consistent with the cognitive earmarking that Zelizer and Tilly (2006) called "mental accounting." Unlike relational/behavioral earmarking, cognitive earmarking allocates monies to different uses in the minds of the owners. When viewed as such, the Nigerian holders of foreign currencies as well as foreign investors recognized the different categories of markets available to them and mentally earmarked their foreign currency positions to the market from which they would get more naira for fixed amounts of foreign currency. Although they might not patronize the parallel markets, the parallel market exchange rates showed that their foreign currency positions had a higher value than the CBN had ascribed to them.

> Well, simply, the official rate of the naira is 197 to the dollar, and the unofficial rate is around 300 to the dollar. That is another reason I can't find investors at the moment because everybody thinks there will be a currency devaluation. So why would you invest now if you think that your shares are going to be worth 30–50 % less if there is a devaluation? (Head of Investor's Relation)

One of the questions Zelizer and Tilly (2006, 27) posed at the end of their insightful article was: "To what extent and how do available categories (or the general properties of all categories) shape the formation of social relations?" The reluctance of the Nigerian holders of foreign currencies and foreign investors to participate in the interbank market were premised on the properties of the available categories of markets. This pervasive role of the parallel markets in creating a cognitive alternative that facilitates earmarking at the individual level was not part of the calculus of the policymakers in the country. The simplistic view that the parallel markets were shallow and constituted a small fraction of the market obviated the more pernicious role of the parallel markets in the psyche of the actors in the institutional space. In addition, it showed earmarking as an iterative process between the established categories, their properties, and the different boundaries in the field. Although the official and the parallel markets were considered different, at times when there was little or no difference between their exchange rates, the differences between the two markets may not have factored into the mental accounting of actors in the institutional space. However, as soon as the critical properties, i.e., exchange rates, of the established categories diverged, cognitive earmarking became salient, and actors that were happy to participate in all the markets before the crisis became reluctant to participate in legitimate markets, partly because of valuations in the parallel markets.

Co-Creation by Marginalization

> It is pathetic that the BDC/parallel market rate has become the reference rate in Nigeria. It is indeed sad. Even though this market is also important, as some genuine transactions are executed here, it is a much smaller market than the interbank market, and it is amazing that this market has better price discovery than the interbank FX

> market. You asked about the spot FX market. I am disappointed to say that I do not know the current levels. (Bola Koko, CEO FMDQ)

The disparity between the official interbank market and parallel markets made local owners of foreign currencies reluctant to participate in the official market. Despite calls for patriotism from senior government officials, local actors held their positions in foreign currencies. Although the official interbank market languished in illiquidity, local owners of foreign currencies refused to fund this market. Despite claims of floating the official exchange rate, the CBN forbade actors in the interbank market from buying foreign currencies above particular prices (exchange rates). The implication was that the local actors were valuing their foreign currencies above the prices that the CBN allowed banks in the official markets to buy.

The direct ban from the interbank market through demand management policies and the indirect lack of access to the interbank market because of inadequate supply created pools of unmet demand for foreign currencies in Nigeria. The CBN placed a lien on naira funds deposited to finance foreign currency purchases through the official interbank market. Often, the buyers were unable to secure all their foreign currencies demand from the interbank market. However, the CBN instructed banks not to remove the lien placed on the naira equivalent of the unmet foreign currency demand. Even manufacturers, which enjoyed preferential treatment in the interbank market, still had to source parts of their foreign currency demands from parallel markets.

> The scarcity of foreign exchange from the official window has compelled some manufacturers to source funds from the black market in order to keep their business going.

In the coming months, affected manufacturing firms say consumers may have to pay about 100 percent more than what they currently pay for locally manufactured products.

Some manufacturers say they have been on queue to access forex for a period ranging from six months to one year without making any progress.

It was gathered that the CBN's directive that 60 percent of the forex supply in the system should go to the manufacturing sector had failed as manufacturers are unable to benefit from the policy months after the apex bank initiated it.

A reliable source in one of the commercial banks told our correspondent that banks were under a lot of pressure because of high forex demand from customers. "There is very limited supply of forex, and a lot of people are coming for the supply. The banks do not even have the forex, not to talk of giving 60 percent to a particular sector," the source said. (*The Punch* Newspaper October 30, 2016)

Into the dark, foreign currency supplies from the parallel market

Local firm owners I spoke with when I was in Nigeria gathering data had all but given up hope on accessing foreign currencies through the interbank market. Their narratives are similar and can be summed up as:

> I applied for foreign currency to bring in final goods or raw materials; the CBN approved 5–10% of my request. However, the CBN placed a lien on the local currency equivalent to 90–95% of my foreign currency requests. I am stranded because after crediting my foreign currency account with 5–10% of my foreign currency requests, the lien remained on the balance in local currency. (Interview notes)

With these anecdotal complaints, many firms whose products were eligible to participate in the official foreign currency markets rarely ventured into the official market. These policies resulted in significant unmet demands for foreign currencies. The parallel markets, a previous peripheral arena of currency trading, became the toast of the disenfranchised firms/actors. The CBN's policies that were intended to manage the demand of foreign currencies had several unintended consequences; the policies not only explicitly excluded some activities from interbank markets but also led into a shallower market that effectively precluded some "legitimate" demands. Operators in the parallel markets spoke of spikes in activities as Nigerians with foreign currencies gladly met the demand from importers who were either precluded from the interbank market or were unable to source from the interbank market. In addition, the indirect pegging of currency to a range that the local holders of foreign currencies saw as unrealistic meant that these potential sources of foreign currency supply were reluctant to participate in the interbank market. The hitherto fringe parallel markets became the venue for these otherwise marginalized actors to trade and exchange currencies.

The parallel markets for foreign currencies have been part of the institutional structure of foreign currency trading in Nigeria; they service actors in the informal sector of the Nigerian economy (Ayogu 1997). The informal sector in Nigeria represents over 50% of the economic activities in the country; the general penchant for avoiding governmental oversight is rife in Nigeria (Medina and Schneider 2017; Schneider 2002). In that sense, when the CBN balkanized the official markets and pegged exchange rates for foreign currencies in Nigeria, the parallel market came alive, functioning as an alternative market free of governmental interference. While the parallel market might not have expanded to become as big as the official interbank market, it grew in influence and became the basis for cognitive earmarking of many holders of foreign currency.

The massive remittances, which constitute the second highest source of foreign currency inflows into the country, were exchanged at rates benchmarked against the parallel markets. However, the influence of the parallel markets was beyond the trades in the markets and included their propensity to shape the perceptions of the value of the naira; for instance, FDI and FPI inflows into Nigeria slowed down considerably until foreign investors secured exchange rates that were comparable to those of the parallel markets.

In addition, the presence and institutionalized status of the parallel markets shaped the outcomes of the CBN earmarking exercises. When the CBN eliminated some sectors from the official interbank markets, the pariah sectors would have been completely starved of foreign currencies had the parallel markets not existed. What the CBN achieved was moving the boundaries of the interbank market in a manner that precluded those sectors, thereby condemning some foreign currency demands to a market with lower values for the naira. A similar argument applied to sectors that were not included in the key sectors prioritized by the CBN. The actors in these sectors had to fulfill the foreign currency demands from the parallel markets with a lower value for the naira. The inadvertent outcomes of the policies were that the exchange rates of the parallel markets impacted the general level of prices in the country and created the upward trend in inflation that compounded the country's economic crisis. The Monetary Policy Committee of the CBN acknowledged the role of exchange rates in propping up the inflation rate in the country:

> The Committee noted the increase in year-on-year headline inflation to 11.38 percent in February 2016, from 9.62 percent in January and 9.55 percent in December 2015. … The rising inflationary pressure was traced to the lingering scarcity of refined petroleum products, **exchange rate pass through from imported goods,** seasonal

> factors, and increase in electricity tariff. The Committee noted that the factors responsible for rising inflation were more structural in nature than monetary but reaffirmed its commitment to monitor the developments closely and to work with the relevant authorities to address the underlying drivers of the upward price movements. (MPC communiqué, March 21, 2016, 6 [emphasis added])

Zelizer and Tilly (2006) argued that earmarking influences relations within and across boundaries of activities. The activities of the actors that were not prioritized in the interbank markets show the permeabilities of the normative boundaries created by earmarking. The presence of alternative means of structuring market activities can create cognitive anchors that can have significant consequences for relations within and across boundaries created by earmarking.

While studies have examined how actors categorize in markets, none theorized the impacts of market crises on process of categorization. Market crises prime different dimensions of categorization. Crises add new meanings to categories beyond their prototypical identities. I propose that audiences use stereotypes to delineate market categories during crises. Under these unusual conditions, categories can be stereotyped based on how they enable various audiences achieve their goals. During the currency crises in Nigeria, using its policy objectives, CBN stereotyped buyers, sellers, and sources of foreign currencies in the markets. Categories of actors and artifacts that facilitated CBN objectives were channeled to specialized market platforms. Conversely, sellers and buyers of foreign currencies stereotyped the foreign currency markets based on accessibility and exchange rates. These dynamic realignments of categories to objectives of market actors extend present understanding of market categories.

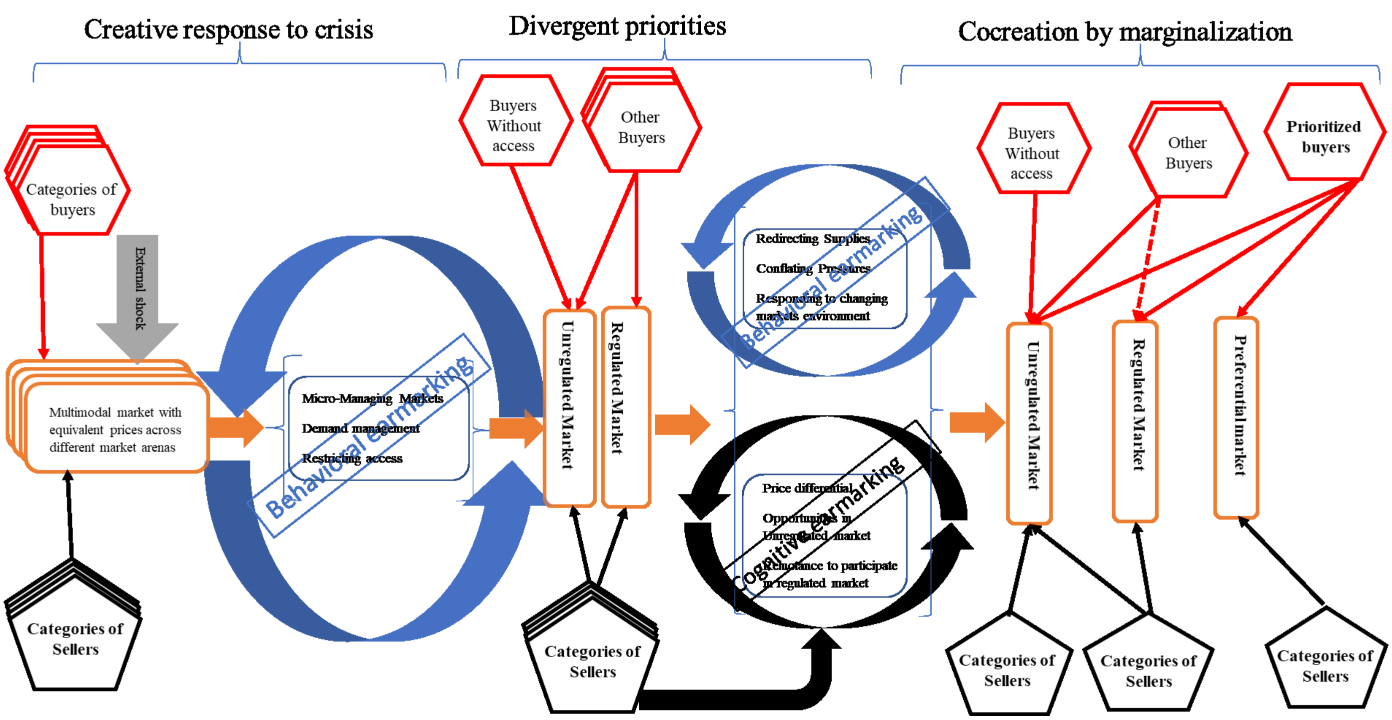
Process Model of Dynamic Recategorization in Foreign Currency Markets

Figure IV represents the process model from the data analysis in this case. Initially, although there were multiple market arenas, the essential characteristics of these arenas were the same; therefore, buyers and sellers indiscriminately participated in multiple market arenas. Although there were categories of buyers, sellers, and arenas, these latent categories did not impact market outcomes.

The market regulator attempted to manage the fallout of external shock through behavioral earmarking. Attempts at regulating and stabilizing the market came through mechanisms such as micromanaging markets and demand management. The regulator drew on latent categories of buyers to restrict access to some market arenas. The consequences of the regulator's behavioral earmarking included the fragmentation of buyers into different market arenas; thereby, some categories of buyers were confined to the unregulated markets. Furthermore, market micromanaging brought to the fore differences between the regulated and unregulated markets. Arenas that had been substitutable became differentiated such that prices differed between the regulated and unregulated markets.

The differences in market characteristics did not escape sellers' attention as sellers became reluctant to participate in regulated markets. The sellers cognitively earmarked their supplies to the unregulated markets partly because of the price differentials between the regulated and unregulated market arenas. Market fragmentations resulting from the behavioral earmarking of the market regulator were partly responsible for the cognitive earmarking of the sellers. The regulator stepped up its behavioral earmarking by redirecting supplies from the regulated market into the preferential market and guaranteed supply for prioritized buyers as well as allocated a major share of supply in the regulated markets to prioritized buyers. The boundaries of the different market arenas became calcified such that the free movement of buyers and sellers across market arenas, which had initially characterized the markets, no longer obtained.

Figure IV: Process Model of Dynamic Recategorization in Markets



Discussions and Conclusions

Carruthers (2010, 65) argued that “periods of dramatic social and economic change often heighten collective ambivalence about money and give it contradictory meanings.” In this study, I analyzed the “collective ambivalence” surrounding the values of the foreign currencies in Nigeria during a period of foreign currency crisis in the country. Using public records from the CBN, I showed how earmarking the activities of the CBN ran into the institutionalized structures of the Nigerian foreign currency markets. When the foreign currency inflows into Nigeria slowed down, the CBN intervened by executing many unconventional policies that categorized the foreign currencies by their sources and allocated them to different uses. Unlike extraordinary central bank policies that involved activities surrounding local currencies, such as quantitative easing, the policy options available to the CBN were limited because the bank lacked control over foreign currency supplies. In addition, the parallel markets in the country were practically beyond the ambits of the CBN; this inability to control the parallel markets complicated outcomes of policies geared toward managing the foreign currency crisis. Furthermore, neither the foreign investors nor the local holders of foreign currencies were swayed by the CBN's optimistic valuations of the local currency; while not necessarily active in the parallel market, they earmarked their foreign currencies at the parallel market exchange rates. Leaning on the social categorization of money, i.e., earmarking in the sociology of money literature, I showed how the CBN practiced relational/behavioral earmarking while the local owners of foreign currencies and the foreign investors practiced cognitive earmarking. The CBN matched different sources of foreign currencies to different markets and prioritized different actors in these markets. On the other hand, foreign investors and local owners of foreign currencies cognitively earmarked their foreign currency positions based on the exchange rates of the parallel markets. The CBN's creative solutions generated different categories of actors in the foreign exchange markets. The bank's first approach was to block access of many product groups to the official interbank market. This approach of limiting access was unique in that it signaled the power relations in the markets (Bandelj 2012; Carruthers 2010). Usually, money-based groups create relations for inclusion, and exclusions are by-products of relations within the markets (Zelizer and Tilly 2006). The ability to institutionalize rules of engagement around money is one of the prerogatives of nation-states that has been delegated to central banks (Carruthers 2010). However, this is usually related to local currencies; little is known about how states treat foreign currencies over which they have limited control. The CBN's ability to limit access to the official foreign currency market showed a different species of extraordinary monetary policies than those witnessed in the countries at the hub of global financial infrastructure (Best 2018).

In addition, the apex bank grouped sectors it considered key to the economy of Nigeria and mandated that the commercial banks disburse 60% of the foreign currencies in the interbank market to these economic sectors. These promulgations further stratified the market and signaled the benefactors of CBN earmarking to the interbank markets. Furthermore, the CBN redirected crude oil proceeds away from the interbank markets. In a slew of policies, the apex bank created stratified categories of economic activities and earmarked foreign currencies to them. Oil importations seemed the highest status economic activities as they commanded the highest volume of foreign currency earmarks. These categories of economic activities were followed by the key sectors that enjoyed the lion's share of interbank transactions. Other sectors that were not proscribed from the interbank were next in line while activities that were banned from the interbank were at the bottom rung. Among other outcomes, the earmarking created stratified categories of activities in markets. One of the consequences of the CBN earmarking activities was that low-status buyers were indirectly penalized because they were driven into markets with more expensive naira rates.

Earmarking is often studied as part of the cultural perspective of the sociology of money (Baker and Jimerson 1992; Zelizer 1997). However, like other economic activities, earmarking actions are nested in institutional environments, and their processes and outcomes are shaped by extant institutional arrangements. Zelizer and Tilly (2006) proposed iterative processes between institutional structures and relations resulting from earmarking. The earmarking activities of all actors in the Nigerian foreign currency institutional field were shaped by ongoing relations in the field; in addition, the categorization of foreign currencies market arenas also shaped these relations. For instance, before the crisis, the parallel markets and the three different official markets coexisted with similar exchange rates; the boundaries between these different markets were permeable as actors participating in one market at one moment could switch to the other markets with ease at the next moment. However, these structural relations changed when the CBN blocked the access of some economic activities to the remaining official market. Furthermore, the apex bank's exchange rate pegs meant that disparities in the exchange rates between the official interbank market and the parallel markets widened. The relational earmarking activities of the CBN reshaped the structure of relations in this field and culminated in situations where participants that had hitherto viewed the market arenas as comparable or close substitutes had different orientations toward the markets. Furthermore, holders of foreign currencies cognitively earmarked their assets at parallel markets' exchange rates and were reluctant to participate in the interbank market. These interactions demonstrated the iterative processes underlining relations within categories created by earmarking.

Scholars studying categories in markets often focus on one of the many categories in the markets they study, as if to say all other forms of categorization hold constant. This present study shows the evolving nature of categorization in markets. Usually, there are many categories in markets; however, they may not all be equally salient during different market situations. Economic and social changes might affect the saliency and dynamism of different market categories. During the foreign currency crisis in Nigeria, categories that hitherto had been latent or inconsequential were activated by different actors to frame their activities in markets. Monies in money markets are perhaps the most homogeneous commodities. However, as scholars had rightly surmised, that monies are easily substitutable does not mean they are completely without relational and cognitive categories. The foreign currency crisis made the different categories of monies salient in the foreign exchange markets in Nigeria. Foreign currencies were categorized by their sources, and the sources were used to determine the market arena where the monies were earmarked. Monies were not the only objects whose categories the crisis made salient. Market arenas that were considered substitutable became delineated during the crisis. In addition, categories of actors in the institutional space became salient as market participants came to terms with the implications of the crisis. As discussed above, the categories of market arenas were made salient by the different earmarking activities of participants in the market. The latent categories of markets that became salient during the crisis include the rDAS and wDAS (which were closed at the onset of the crisis), the interbank market, the BDC market, and the parallel market. Similarly, buyers in the markets were categorized as key sectors, pariah sectors that were not allowed in the official markets, and other sectors of the economy. As the categorized actors were sorted into the different market arenas and categories of monies were earmarked for different categories of markets, relations in the foreign currency markets morphed in ways the actors could not have predicted at the onset of the crisis. The CBN reached the limit of its power to successfully guide the evolution of activities in the markets for commodities and lacked the power to control the supplies and patterns of demand. The interplay of these different categories in the market confirmed the overarching idea of the category literature in organization sociology; that is, categories are ubiquitous in markets. However, unlike most previous studies that focus on single categories, the present study suggests that interactions of multiple categories in markets shape and reshape relations in nontrivial ways.

Chapter IV

Country-of-Origin Stereotypes and Foreign Firm Discount on US Stock Exchanges: An Empirical Analysis

Introduction

Categories shape outcomes in organizations and markets. Over the last few decades, scholars have gathered compelling evidence about the centrality of categories in markets. However, these pieces of evidence are mostly about the product and industry categories. While product and industry categories are perhaps the most important categories in markets, they are not the only way audiences categorize market activities. For instance, Diestre and Rajagopalan (2014) argued that following industrial accidents involving sulfuric acid, market audiences grouped firms whose inputs include this chemical, i.e., input-based categories. This apparent neglect of other dimensions of categorization in the literature might suggest they are unimportant. However, few people will argue that country of origin (COO), i.e., the country audiences primarily associate with an organization irrespective of where the organization has its various operations, is an unimportant basis for categorizing actors, activities, and artifacts in the market. German cars and Swiss chocolate are common labels that categorize products based on their COO. Perhaps other bases for categorization are lacking in organization scholarship because of the limitations of organization theory's main categorical cognition: prototypes.

Vergne and Wry (2014, 72) defined prototype as "the most representative or central member of a category in the eyes of a given audience." However, when the COO label is invoked to categorize a product or organization, as in German cars, the picture that comes to mind goes beyond the prototypical member to include the qualitative virtues or vices associated with the members of the COO category. Category scholars in adjacent social science disciplines such as marketing and social psychology call these qualitative virtues and vices "stereotypes." A stereotype is the cognitive lens used to interpret information about a social category. The Stereotype Content Model (SCM) is one of the central models for understanding categorical stereotypes (Cuddy et al., 2008; Dovidio et al., 2010). Proponents of the SCM argue that social groups are stereotyped along the two stereotype components of warmth and competence (Aaker et al., 2010; Cuddy et al., 2008; Dovidio et al. 2010; Fiske et al. 2002). Warmth is the perception of friendliness and good intentions in regard to members of categories. Conversely, competence is the perception of a social group's efficacy. For instance, while drug cartels are often perceived as low warmth (i.e., hostile to most audiences), they are considered efficacious (i.e., high competence). Prototypical categorization of drug cartels might not readily show this obvious characterization of members of the category. Stereotype-based categorization can complement prototype-based categorization because the former captures attributes about categories that might have eluded the latter.

This study explores stereotypes as bases for categorization in markets. Using stereotypes, I attempt a systematic unpacking of COO categorization in financial markets. Specifically, I address COO stereotypes as bases for categorization in equity markets in the United States. COOs are cognitively and culturally distinctive enough to form the basis of classification in equity markets. With increasing financial globalization, foreign firms enjoy easier access to capital markets outside their home countries; therefore, multinational organizations can list financial instruments across national boundaries. Cross-listing is the process of listing equities and other financial instruments on financial markets in two or more countries. Over 3,000 organizations are cross-listed on capital markets in the US. The central research question of this study is how do stereotypes associated with firms' COOs influence the firms' capital market valuations?

Drawing inspiration from the SCM and the related Behavior from Intergroup Affect and Stereotypes (BIAS) map, I theorize and find support for stereotype-based categorization in financial markets. Proponents of the SCM and BIAS map argue that the stereotype components of warmth and competence are the universal basis of perception (Cuddy et al., 2008). This present study shows that warmth, competence, and different combinations of warmth and competence impact the level of foreign firm discount on major stock exchanges in the US. For instance, firms from countries perceived as warm and competent are not discounted on major US stock exchanges. In addition, the BIAS map suggests that discrete emotions are associated with different combinations of warmth and competence. My data show that these discrete emotions influence the levels of the foreign firm discount on major exchanges in the US.

This study contributes to two literatures: categories in markets and sociology of financial markets. Recent scholarship has raised concerns on how the prototype view dominates organization theory on market categories (Durand and Paolella 2013; Glynn and Navis 2013; Vergne and Wry 2014). In this paper, I propose a complementary categorical cognition: stereotypes. Unlike prototypes, stereotypes capture contents of categories. This study shows that these contents influence market outcomes in non-trivial ways. I find that stereotype contents of warmth and competence as well as their combinations influence the levels of the foreign firm discount on major exchanges in the US. Economic sociologists and behavioral economists have argued for an alternative to the dominant efficient market hypothesis in financial markets (Zuckerman 1999). This study contributes to this literature by showing that stereotypes held about the COOs of cross-listing firms on the major exchanges in the US partly determine the valuations of these foreign firms. Firms from countries with positive stereotypes enjoy similar valuations with comparable firms from the US; conversely, firms from countries with negative stereotypes suffer foreign firm discount.

Categories in Markets

Categories facilitate the functioning of markets. Audiences within and outside markets rely on categories to make sense of activities in these social arenas. Zuckerman's (1999, 2000) arguments on categorical imperatives in capital markets were seminal to the organization theory of categories. Categorical imperative is the propensity to discount activities of market actors that do not conform to audiences' expectations. For instance, when the equities of a firm are not properly covered by analysts specializing in the firm's industry category, the firm is likely to suffer an illegitimacy discount (Zuckerman 1999, 2000). Other scholars have confirmed categorical imperative in different areas of economic activities.

US firms are the prototypical firms on the US-based stock exchanges. Despite the globalization of capital markets, firms still prefer to raise funds and issue public offerings on the stock exchanges in their home countries. This might be partly because of familiarity with the institutional environments of their home countries. In addition, several studies have shown that outcomes of public offerings depend on the quality of the networks of key audiences that promoters of the offerings can count on; these networks will likely be richer in a firm's home country. Similarly, the legal requirements for equity listing vary by country. Firms are more likely to be more familiar with the legal exegesis of their home countries. Studies have shown that the investors' capitalism model, which is prevalent in the US, is a distinctively Anglo-American phenomenon; consequently, firms from other countries might need major readjustments to match the worldview of the American investment community. Similarly, there are other methods of raising foreign capital that require lesser procedural difficulties than equity listing. Lastly, capital is more fluid than firm equity; that is, it is easier for US funds to flow into and out of foreign equity markets than for foreign equities to be listed on the US equity exchanges. Therefore, US firms are the typical firm listed on equity markets in the US.

Scholars have theorized and studied foreign firms listing equities on capital markets in two or more countries; this phenomenon is called cross-listing. While the most popular vehicle for cross-listing, American Depository Receipts, existed for close to a century, it was only in the last three decades that equities of cross-listed foreign firms have constituted significant proportions of equities traded on stock exchanges. This growth in the proportion of traded foreign equities coincided with the emergence of the efficient market hypothesis that the values of financial instruments on markets reflect all available information on the instruments. The growth to orthodoxy of the efficient market hypothesis might be partly responsible for the unprecedented growth in financial markets and the opportunities to raise capital across borders. However, scholars have also raised concerns about information asymmetry in markets; this information asymmetry amplifies in cases of cross-listing (Bell et al., 2012; Filatotchev et al., 2016). In addition, scholars have shown that local investors prefer the financial instruments of local firms to those of foreign firms. While growth in the global capital market is undeniable, investors' bias against foreign firms persist (Frésard and Salva 2010; Sarkissian and Schill 2004).

This preference for local firms might mean that foreign firms are discounted in financial markets. Foreign firms are a departure from prototypical firms in US equity markets; all things considered, cross-listing foreign firms will be valued less than their US counterparts (Filatotchev et al., 2016; Frésard and Salva 2010). This is partly because capital markets are mediated markets; both investors and mediators such as market analysts prefer the financial instruments of local firms (Comiran and Siriviriyakul 2017; Sarkissian and Schill 2004). To the best of my knowledge, no study has theorized and measured bias evaluations in the context of foreign participation in capital markets. Sociological institution theory argued for the role of heuristics rather than efficient information analysis in mediated social arenas such as the capital markets (Bell et al., 2012; Filatotchev et al., 2016). In mediated markets, it is difficult to make sense of the plethora of information about the different products; therefore, evaluators default to simplifying heuristics. The rules for the heuristics depend on salient categories in the setting under consideration. Relying on these simplifying rules, mediators confer penalties and rewards on actors in discriminating ways (Sharkey 2014; Zuckerman 1999).

In complex and dynamic information environments such as markets, institutionalized rules shape audiences' interpretations of actors, actions, and artifacts (Bell et al., 2012). Prior research has shown that key actors in financial markets display home biases in their evaluations of financial instruments; that is, they prefer financial instruments, such as equities, of local firms over those of foreign firms. This is not unusual because local firms constitute the ingroup of these key market actors. Research in different domains of social sciences has confirmed that social actors show preferences for ingroup members in different contexts. Therefore, these key market actors might discount claims of foreign firms. This bias against foreign firms might lead the local actors to penalize foreign firms; Frésard and Salva (2010) refer to this penalty as a foreign firm discount. The foreign firm discount represents an economic penalty due to biases against foreign firms.

> Hypothesis 1 (H1): Equities of non-US firms will be discounted on stock exchanges in the United States.

Some scholars have raised objections to the constraining view of categories as depicted by the arguments of categorical imperatives; prototypical cognition is the cornerstone of this constraining view of categories (Durand and Paolella 2013; Glynn and Navis 2013). Scholars have argued that the overreliance on the prototype view of category has restricted organization theory to the discipling roles of market categories. For instance, Durand and Paolella (2013) suggested that the causal model and goal-based categorical cognitions could help scholars see categories as enabling rather than constraining market actors. Similarly, Glynn and Navis (2013) proposed a more contextualized view of categories in markets. They argued that categories and audiences are embedded in broader classification systems; therefore, the roles of categories in markets cannot be adequately spelled out without a better understanding of these shared meaning systems. Durand et al., (2017) challenged scholars to examine categorizations as social processes. They argued that this perspective will shed light on some of the limitations of prior theorization of categories in markets (Durand et al., 2017). For instance, audiences have goals and interests; these goals and interests will bias their perceptions of the different categories in markets. The prototype view of categories seems to assume away these potential audience biases. In addition, creating labels for categories is a value-laden activity in markets; prototypes are usually value-neutral and cannot aptly capture these value-laden activities. In sum, while prototype-based categorization has contributed to our understanding of market categorization, it might have limited our understanding of how key contextual factors such as audiences' biases might influence the evaluations of market categories.

A major criticism of prototype-based categorization is its neglect of labels attached to categories. Prototype-based categorization judges an actor's worthiness based on how similar the focal actor is to the exemplar of the category (Vergne and Wry 2014); the key audiences discount focal actors based on how far away they are from the exemplar. This line of argument assumed that all categories are equally valued by society. In an insightful study, Vergne (2012) showed that just as actors suffer discounted reward for being dissimilar to the prototypical member of categories, they also enjoy discounted punishment for being dissimilar to the prototypical members of stigmatized categories. Categories signal important information about their members. Audiences' judgments of these signals are not neutral (Durand et al., 2017). When the signals are positive, prototypical organizations are rewarded; when the signals are negative, as in the case of stigmatized categories, prototypical members are punished (Vergne 2012). Prototype-based categorization cannot decipher positive or negative evaluations of categories. In addition, as other scholars have alluded, the literature on organization category is overly steep in cognition; this literature seemed to miss the boat of the affective revolution in social sciences. None of the alternative cognitions that have been suggested capture the affective consequences of categorization (Hamilton and Mackie 1993).

Stereotypes

Stereotypes are the information and social contents of categories, and they can address some of the shortcomings of prototype-based categorization. While prototypes focus on material characteristics of categories, stereotypes capture the social perceptions of these categories. For instance, a robin is the prototypical bird because of its physical features. However, while humans might stereotype robins as beautiful creatures, some insects stereotype them as brutal predators. Like prototypes, stereotypes constrain perceptions. When audiences activate stereotypes, they are primed to perceive information that confirms existing stereotypes. Despite this limitation, stereotypes can address some of the concerns of organizational scholars about prototype-based categorization.

Deploying stereotype-based categorizations can resolve some of the theoretical and conceptual challenges scholars have identified in existing literature on market categories. Durand et al.

(2017) argued for more focus on the social processes of categorization. For instance, the authors observed that audiences are not homogeneous, and that present literature does not capture variations in audiences' preferences. This is partly because prototypes do not capture the social lenses audiences rely on to judge market categories; these lenses are stereotypes. In addition, scholars have called for a contextualized process of categorization. A corollary to this challenge is that since organizations can be categorized along multiple dimensions, why do audiences rely on some categorization criteria rather than others in any context? Different contexts make different stereotypes salient. For instance, in a context of palliative care, audiences might tend to categorize organizations based on their friendly services rather than their ability to provide cutting-edge cures. Lastly, categorization is not affectively neutral. Categorization often comes with preconceived affects. Organization literature on categories has been silent on the affective dimensions of market categories. Stereotyping often comes with affective consequences (Hamilton and Mackie 1993; Harmeling et al., 2015). Stereotype-based categorization complements prototype-based categorization because the former addresses dimensions of categorization processes, such as varying preferences of audiences, contextual cues for category activation, and affective consequences of categorization, for which the latter is ill-suited.

Stereotype Content Model and Behavior from Intergroup Affects and Stereotypes Map

In the Stereotype Content Model (SCM), Susan Fiske and her co-authors proposed that perceptions of warmth and competence are the components of stereotypes (Aaker et al., 2012; Cuddy et al., 2007; Fiske et al. 2002). The warmth label captures the perception of the outgroup members' friendliness; the competence label captures the perception of the outgroup members' capacity to follow through with their intentions. Proponents of the SCM argue that the warmth and competence components of stereotypes are foundational to social perception because they serve survival goals in social interactions (Cuddy et al., 2008). Social actors need to judge the intention of foreigners and decide whether they are friendly or hostile. This judgment of an outgroup's intentions is the basis for the warmth component. Groups judged as having benign intentions are considered warm; groups perceived as having hostile intentions are considered cold. In addition, social actors must evaluate the outgroup members' capacity to carry out their intentions. Groups judged as capable of carrying out their intentions are considered competent; groups perceived as incapable of carrying out their intentions are considered incompetent. Studies have shown that competition for resources is the antecedent of warmth, and status is the antecedent of competence. Generally, audiences consider non-competitive outgroups as warm and high-status outgroups as competent. The stereotype components of warmth and competence serve as survival and social goals for social actors (Cuddy et al., 2011).

Audiences evaluate outgroups along the dimensions of warmth and competence. Actors classify outgroups by how warm and competent they are. Conceptually, social categories can be evaluated as warm and competent, cold and incompetent, warm but incompetent, and cold but competent. Warm and competent stereotypes are for those categories that the audiences consider friendly and capable. Ingroup members and societal referent groups often fall into this quadrant of the conceptual map. Cold and incompetent stereotypes are reserved for groups that audiences consider hostile and incapable. Warm but incompetent stereotypes are for friendly groups with low status. Cold but competent stereotypes are for groups that audiences consider capable but unfriendly (see Cuddy et al., [2008] for a detailed overview of the SCM and BIAS map). The stereotype components of warmth and competence interplay to determine the evaluation of societal groups.

The Behavior from Intergroup Affects and Stereotypes (BIAS) map builds on the propositions of the SCM. Proponents of the BIAS map contend that the interplay of warm and competent stereotypes predisposes the audiences to discrete emotions and behaviors toward members of different social categories (Cuddy et al., 2007; Diamantopoulos et al. 2017). The premises for the BIAS map are that social categorizations extend beyond cognitive appraisal, i.e., stereotypes, to emotional predispositions as well as biased actions toward stereotyped groups (Dovidio et al. 2010). In addition, affects often mediate the relationships between cognitions and behaviors (Frijda 2016; Frijda et al., 1989; Hamilton and Mackie 1993). In the context of the BIAS map, the warm and competent stereotypes generate emotions of admiration because of the upward and positive social comparisons associated with these stereotypes. These emotions of admiration elicit active and passive facilitation of the members of the warm and competent social groups; that is, audiences want to help and associate with the members of these groups. The cold and incompetent stereotypes generate emotions of resentment because of the downward and negative social comparisons associated with these stereotypes. These emotions of resentment elicit active and passive harm toward the members of cold and incompetent social groups; that is, audiences want to harm and dissociate with the members of these groups. The warm but incompetent stereotypes generate emotions of sympathy because of the downward but positive social comparisons associated with these stereotypes. Sympathy elicits active help and passive harm toward the members of warm but incompetent social groups; that is, audiences want to help the members of these groups but also want to dissociate from them (Antonetti and Maklan 2016). The cold but competent stereotypes generate emotions of jealousy because of the upward and negative social comparisons associated with these stereotypes. Jealousy elicits active harm but passive help toward the members of cold but competent social groups; that is, audiences want to harm the members of these groups but, at the same time, want to associate with them (Antonetti and Maklan 2016; Cuddy et al., 2008, 2007). Stereotype-based categorization of societal groups influences the affective and behavioral dispositions of audiences.

COO Stereotypes

The effects of the COO stereotype on consumers' choices are well documented in marketing research (Chattalas et al., 2008; Halkias et al., 2016). By COO stereotype, I mean the stereotypical evaluations of people, actors, and activities that are perceived to be from a particular country (Diamantopoulos et al. 2017). For instance, French wine, Swiss chocolate, and German cars conjure images of the differentiation and status of these products in the minds of consumers; that is, the national stereotypes are often transferred into domains of commerce. Despite globalization and increased contact between people from different parts of the world, COO stereotypes persist (Chattalas et al., 2008). This is partly due to organizations that profit from the positive stereotypes of their home countries; for instance, advertisements for most top German car markers often signal the stereotypical German competence (Chattalas and Takada 2013). Key audiences evaluate market actors, activities, and artifacts through the stereotypes of their countries of origin.

Chattalas et al., (2008) proposed that the SCM components of warmth and competence adequately capture the COO effects that scholars have studied for decades. The authors claimed that consumers stereotype countries along the warmth and competence dimensions. Chattalas and Takada (2013) showed that COO stereotypes drive consumer expectations of product properties. For instance, while consumers expect Italian products to be hedonic, they expect German products to be utilitarian. In another study, Barbarossa et al. (2016) linked consumer stereotypes of firms' COOs to blame attribution in the aftermath of a food scandal. Italian consumers attributed higher blame to firms from countries with high competence and low warmth

(Barbarossa et al. 2016). Maher and Carter (2011) showed that consumers not only stereotype countries along warmth and competence dimensions but also translate these stereotypes into affective evaluations of countries. Kuwaiti consumers' willingness to buy American products correlated with the consumers' emotions of admiration and resentment towards Americans (Maher and Carter 2011). These studies showed the importance of the warmth and competence components of COO stereotypes in evaluating market actors, activities, and artifacts. Capital markets, like product markets, are becoming increasingly globalized, and actors in these capital markets, now more than ever, encounter financial instruments from different countries of origin. To the best of my knowledge, no study has examined COO stereotypes in financial markets.

COO Stereotype and Cross-Listing Discount

Over the last few decades, capital markets have become increasingly globalized and interconnected. Capital market globalization is more recent than product market globalization (Bell et al., 2012). This increase in capital market globalization might be connected to the rise of liberalization policies in the last few decades. With capital market globalization came increasing access to foreign capital markets; firms issued their equities and debts across national borders at unprecedented rates. In addition, capital flows smoothly across geographical borders; part of this capital ends up in financial markets in the form of foreign portfolio investments. Venture capital firms now ply their trades on the global scale (Filatotchev et al., 2016). Globalization introduces additional layers of complexities to already inscrutable financial markets.

While industry sectors and countries of origin are the two most salient classifications of equities on stock exchanges, sociological studies of equity markets have focused almost exclusively on the industry sectors. For instance, investment analysts often specialize along industry or country lines (Sonney 2009). While industry studies are essential, there are ample reasons for considering country-based classifications. Like industries, countries are cognitively and symbolically distinctive enough to be the bases for classifications in markets. In addition, market indices, key components of capital market sensemaking, are constructed along industry and country lines. Similarly, studies show that analysts specializing along country lines produce more accurate earnings forecasts than analysts specializing along industry lines (Sonney 2009). Therefore, it is surprising that the sociological studies that are proposing alternatives to the efficient market hypothesis have neglected country-based categorization in the markets. Most of the studies relying on country-based classification have been from the rationalist market information efficiency approach. Despite information about investor and analyst home biases, social factors such as biases are not given adequate consideration in these studies. If alternative explanations such as simplifying heuristics play vital roles in the capital markets, biases regarding countries will be one of the readily available heuristics that actors can draw upon. COO stereotypes are pervasive in marketplaces. Just as industry categorizations influence market rewards and punishments, COO categorization should also influence rewards and punishments, such as the foreign firm discount, in markets (Vergne 2012).

COO stereotypes can shape the market evaluations of foreign firms' cross-listed equities on capital markets outside their home countries. Audiences' perceptions of market actors and actions are institutionally embedded. Institutionalized heuristics tied to market categories influence audiences' evaluations of market activities. For instance, Sharkey (2014) showed that the status of the organization industry category influences evaluations of organizational wrongdoings in capital markets. Industry and COO are the two most prominent bases for categorization in financial markets (Sonney 2009). Similarly, COO stereotype is pervasive in many market settings. In capital markets, countries with positive COO stereotypes might be rewarded while those with negative COO stereotypes might be punished. For instance, low warmth stereotypes suggest hostility between the focal audience and the stereotyped group. Firms from countries with a low warmth COO stereotype might suffer a lower valuation in the capital market in the audiences' home countries. The present study examines the impacts of COO stereotypes on the foreign firm discount in the US's major stock exchanges: the NYSE, NASDAQ, and NYSE American (formerly AMEX and NYSE MKT).

Warmth is often considered the primary stereotype; that is, audiences consider the outgroups' friendliness over the outgroup's capacity to carry out their intentions. Countries can be stereotyped as warm if their people are considered to have good intentions toward the audience's country (Barbarossa et al. 2016). These friendly dispositions can be transferred to organizations from these countries. A country with a warm stereotype can foster trustworthiness toward its firms. In addition, warm stereotypes often result in the tendency to magnify positive attributes and overlook the negative attributes of members of the stereotyped group. Conversely, firms from countries stereotyped as cold (or low warmth) might be treated as untrustworthy; audiences might be suspicious of firms in that country. Similarly, because stereotypes color interpretations of information about groups, cold stereotypes might lead audiences to discount positive information and magnify negative information about firms from those cold countries. This leads to the second hypothesis:

> Hypothesis 2 (H2): Warm COO stereotypes attenuate the foreign firm discount such that firms from high warmth countries will have a lower foreign firm discount than firms from low warmth countries.

Competence captures perceived ability to carry out intentions. Groups stereotyped as competent are classified with adjectives such as capable, efficacious, intelligent, and resourceful. Studies have shown that perceived status is the antecedent of the competence stereotype such that high-status groups are perceived as competent. Sharkey (2014) demonstrated that membership of high-status categories comes with preferential treatment in markets. The author showed that the members of high-status categories that restated their earnings suffered smaller blowbacks on their market values than members of low-status categories that restated their earnings (Sharkey 2014). Foreign firms from countries perceived as competent might enjoy similar rewards from market audiences. Firms from competent countries will be thought of as capable of delivering on their future obligations and producing consistent returns. Conversely, audiences will doubt the abilities of firms from low-competence countries to deliver on their future obligations and produce consistent returns; this perception is tied to the low efficacy of their COO stereotypes. This leads to the third hypothesis:

> Hypothesis 3 (H3): Competence COO stereotypes attenuate the foreign firm discount such that firms from high-competence countries will have lower a foreign firm discount than firms from low-competence countries.

Audiences combine warmth and competence to stereotype actors. The combinations of warmth and competence measures can be conceptualized along a two-by-two matrix with high and low on each dimension; this conceptual matrix will consist of four quadrants of high warmth, high competence (warm and competent); low warmth, low competence (cold and incompetent); high warmth, low competence (warm but incompetent); low warmth, high competence (cold but competent).

The combinations of the warmth and competence components of COO stereotypes should affect the levels of the foreign firm discount imposed on firms from different countries. Firms from warm and competent countries will suffer the lowest discount, if any discount at all, because the warm and competent stereotype is the ingroup stereotype, i.e., audiences often stereotype members of their ingroups with this high warmth and high competence combination. Therefore, firms from such countries should compare favorably with ingroup firms, i.e., local firms. If this favorable upward comparison is extended to firms from countries perceived as warm and competent, they should be valued at parity with the ingroup.

> Hypothesis 4a (H4a): Firms from countries stereotyped as warm and competent should not suffer a foreign firm discount in foreign capital markets. In addition, if discounted, the level of discount of these firms should be lower than those of firms in the other three quadrants, i.e., high warmth/low competence, low warmth/high competence, and low warmth/low competence.

Warmth is the primary stereotype, and competence is secondary. The nature of the categorized groups' intentions toward the audience is paramount. High-warmth groups, even if they have low competence, might still enjoy favorable consideration in the eyes of audiences. For instance, Barbarossa et al. (2016) showed that high COO warmth scores tend to shift blame attribution away from firms that might have been culpable for a massive product recall scandal. On the other hand, high competence, when combined with low warmth, might heighten audiences' suspicions of firms from countries stereotyped as cold but competent. While low warmth connotes low trust, high competence means that members of the groups are perceived as capable of carrying out their intentions. In mediated and sometimes opaque settings such as equity markets, this sense of mistrust and high capability might lead to more discount for firms from cold but competent countries than discount for firms from warm but incompetent countries. Lastly, firms from countries stereotyped as cold and incompetent should suffer the highest discount of all four quadrants. Audiences tend to condescend to members of cold and incompetent groups because of the perception of their low status. Audiences' perceived hostility of these low-status groups can only exacerbate the seeming incompetence of members of the groups. Therefore:

> Hypothesis 4b (H4b): Firms from COOs stereotyped as warm but incompetent will suffer a lower foreign firm discount than firms from COOs stereotyped as cold but competent as well as cold and incompetent.
>
> Hypothesis 4c (H4c): Firms from COOs stereotyped as cold but competent will suffer a lower foreign firm discount than firms from COOs stereotyped as cold and incompetent.

The BIAS map suggests that the cognitive perceptions of warmth and competence produce distinctive emotional responses. While warm and competent stereotypes result in feelings of admiration, cold and incompetent stereotypes lead to feelings of resentment. Conversely, warm but incompetent stereotypes result in feelings of sympathy, and cold but competent stereotypes result in feelings of jealousy. If the mechanisms of the SCM and BIAS map are at play in capital markets, different levels of these emotions should map to different levels of the foreign firm discount. Admiration suggests a desire to emulate and a tendency to like the admired group (Aaker et al., 2012; Cuddy et al., 2011). Firms from admired COOs should not suffer from the foreign firm discount. Similarly, studies suggested that audiences want to emulate groups they are jealous of (Antonetti and Maklan 2016). Jealousy stems partly from the desire to be like the focal group; on the other hand, jealousy also hints that the high status of the stereotyped group may be unjust (or undeserved). In the context of markets, audiences might be inclined to take advantage of the desirable high status of the groups that elicit jealousy; hence, audiences might not confer a high discount on members of the groups they are jealous of. Sympathy is a patronizing but positive feeling. Audiences want to help groups they sympathize with; at the same time, audiences do not want to associate with these groups. These assessments should lead to a lower discount for firms from countries that audiences sympathize with. Lastly, feelings of resentment are meted out on groups considered as low status and drains on societal resources. These feelings of resentment often cross with anger as well as a desire to punish the resented groups. In markets, resentment can drive investors to devalue firms because of anger toward the COOs.

> Hypothesis 5a (H5a): Feelings of admiration should attenuate the foreign firm discount such that firms from high-admiration countries should have a lower discount than firms from low-admiration countries.
>
> Hypothesis 5b (H5b): Feelings of resentment should exacerbate the foreign firm discount such that firms from high-resentment countries should have a higher discount than firms from low-resentment countries.
>
> Hypothesis 5c (H5c): Feelings of sympathy should attenuate the foreign firm discount such that firms from high-sympathy countries should have a lower discount than firms from low-sympathy countries.
>
> Hypothesis 5d (H5d): Feelings of jealousy should attenuate the foreign firm discount such that firms from high-jealousy countries should have a lower discount than firms from low-jealousy countries.

Data and Methods

The data to test the hypotheses put forward in this study were collected from multiple sources. Since there is no exhaustive database for cross-listing firms, I cobbled together data from reliable sources such JP Morgan, Citibank, Bank of New York, NASDAQ, NYSE, and the Center for

Research on Security Prices (CRSP) (Doidge, Karolyi, and Stulz 2004; Frésard and Salva 2010). Leading investment banks that serve as repositories for these foreign shares created some of these databases. Following previous studies, I focus on firms that are cross-listed on the major exchanges in the US, i.e., NASDAQ, NYSE, and NYSE American (formerly AMEX); these types of cross-listings are referred to as level II and level III listings. Level II and level III listings must comply with all regulatory requirements for publicly traded companies on the major stock exchanges in the US. Scholars have argued that focusing on level II and level III listings reduces the effects of home country institutional environments on the market valuations of cross-listed firms (Frésard and Salva 2010). For logistics reasons, I restricted my analyses to those of eleven countries with the highest number of firm-years in my initial data. The countries are Canada, China, the United Kingdom, Ireland, Brazil, Argentina, Mexico, Japan, Switzerland, Netherlands, and Israel.

My dataset covers data from 1991 to 2016. Although some firms listed multiple equity instruments on these exchanges, I recorded one listing per firm per calendar year; that is, the firms entered the data through their first listing and exited when the last of their equity instruments became inactive, i.e., delisted. To avoid survivor bias, I obtained records of both active and inactive equities during the period covered by my data (Frésard and Salva 2010). I obtained records for all equities listed on the NYSE, NASDAQ, and NYSE American (and its predecessors) from 1991 to 2016; not all equities are represented over the twenty-six years. Following Frésard and Salva (2010), I collected firm-level variables from the Datastream and Worldscope databases. All variables are in United States dollars. Following conventions in finance literature, I dropped financial (SIC 6000–6999) and utility (SIC 9000–9999) firms (Doidge et al., 2004; Frésard and Salva 2010). In addition, I deleted observations without key variables such as sales, total assets, and market values of equities; without these variables, I would not have been able to construct my dependent variable of the logarithm of Tobin's Q. In addition, following Frésard and Salva (2010), I dropped observations with total assets of 100 million dollars and below.

Tables II and III show the final data composition. The final data consist of 748 cross-listing firms and 5,659 local firms. There are 7,080 firm-years from foreign firms compared to 55,916 firm-years of US firms. Of the foreign countries, Canada has the highest number of firm-years with 2,472; there are more cross-listing firms from that country than any other country in the data. Japan (closely followed by Argentina and Switzerland) has the lowest number of firm-years in the data. The average total assets of Japanese firms are the highest of all the countries in the data. Conversely, the total assets of Israeli firms averaged below two billion dollars, earning Israeli firms the lowest average of total assets in the data. Because of the distribution of Tobin's Q, I used the log of Tobin's Q as my major independent variable. Ireland has the highest average log of Tobin's Q in the data with 0.879, and Mexico has the lowest with -0.015. Before factoring in firm characteristics, there was no statistical difference between the average log of Tobin's Q of foreign firms and domestic firms. Foreign firms tend to have higher total assets than local firms. The variables are described in Appendix II.

Table II Summary of Country Variables

Country	No of firms	firm-year	Average LogQ	Average Total Asset $mln
Argentina	14	206	0.092	4287
Brazil	37	524	0.026	16800
Canada	263	2,472	0.378	5072
China	179	1205	0.161	7240
Ireland	25	269	0.879	7262
Israel	59	469	0.495	1891
Japan	14	202	0.328	78700
Mexico	25	304	-0.015	7962
Netherlands	27	287	0.483	35500
Switzerland	14	204	0.504	15800
United Kingdom	91	938	0.514	22800
United States	5659	55916	0.501	4437

Table III Summary of Foreign and Local Variables

Foreign or Local	No of firms	Number of firm-year	Average LogQ	Average Total Asset
Foreign	748	7080	0.341	12300
Local	5659	55916	0.501	4437

Key Variables

Log of Tobin's Q

Tobin's Q compares a firm's market value to the replacement cost of its assets. It has been used severally as measures of firm value in finance literature (Doidge et al., 2004; Frésard and Salva 2010). Following conventions, for the numerator, I subtracted the book values of equities from the book values of assets and added the market values of equities to the residual. The numerator is the book value of assets. Due to the highly skewed distribution of Tobin's Q, I created a new variable, log of Tobin's Q, by finding the natural logarithm of the variable derived from the calculation described above. In addition, while Tobin's Q only takes positive values, running contrary to regression assumptions, the logarithm of Tobin's Q takes values on both sides of zero.

Stereotype and affect variables

To obtain measures of COO stereotypes, I surveyed 517 US citizens aged eighteen and older. The participants were recruited through an online academic survey platform, Prolific Academic, and were paid eighty-six British pence for participating in the survey; on average, participants spent a little over ten minutes on the survey. Participants were informed that they were to assess US citizens' perceptions of people from different countries. The countries were Canada, China, Argentina, Brazil, Mexico, the United Kingdom, Ireland, Netherlands, Switzerland, Israel, and Japan. Aside from the demographic questions, each participant answered eighty-eight questions on the questionnaire, i.e., eight questions per country. The participants were informed that they could exit the questionnaire by simply refusing to complete the questionnaire; uncompleted questionnaires were removed from the data. The participants could also skip questions by choosing the option NA if the question(s) made them uncomfortable. The final data consisted of 497 US citizens (median age 41, 56.3% female).

Measurement of stereotype and affect variables

All measures and scales were adapted from previous COO stereotype studies as well as studies using the SCM in marketing and social psychology literatures (Aaker et al., 2010; Barbarossa et al. 2016; Cuddy et al., 2007). These literatures have developed robust measures of stereotypes and emotions in intergroup perception. The participants rated perceptions of warmth and competence using a multi-item scale on a seven-point Likert scale (Aaker et al., 2010; Bernritter et al., 2016). The scale for warmth consisted of two items: good-natured and generous (Cronbach's alpha>.86 for all eleven countries). The scale for competence consisted of two items: effective and intelligent (Cronbach's alpha>.87 for all eleven countries). The measures for emotions consisted of one item each: admiration, jealousy, sympathy, and resentment (see Appendix III for full measures). Like measures of stereotypes, measures of emotions were on a seven-point Likert scale. ANOVA analysis shows that Canada (M=5.64, SD=1.09) and the United Kingdom (M=4.84, SD 1.07) are perceived as warmer than China (M=3.17, SD=1.33) and Israel (M=3.66, SD=1.31) at $p<0.001$. Similarly, Switzerland (M=5.52, SD=1.06) and Japan (M=5.98, SD=0.98) are perceived as more competent than Argentina (M=3.71, SD=1.08) and Mexico (M=3.20, SD=1.34) at $p<0.001$. I combined measures of stereotypes and emotions obtained from this survey with firm data from various databases to test the hypotheses of this study.

Results and Hypotheses Testing

I used generalized equating models in all my hypothesis testing because of multiple observations per firm for the dependent variable (Chin, Hambrick, and Trevin 2013). Generalized equating models rely on a maximum likelihood estimator, accommodate non-independent and identically distributed observations, and can be used for cross-sectional time-series data (Chin et al., 2013). In addition, they were suitable for when the key independent variables remained constant during the period of observation. Specifically, I used xtgee commands in Stata 14; this command fit generalized linear models with allowance for specification of within-group correlation structure (Chin et al., 2013; StataCorp 2015). I included robust variance estimators for all models (Chin et al., 2013). Appendix V reports the means, standard deviations, and correlations among the variables.

H1 states that cross-listing firms suffer a foreign firm discount on capital markets outside their home countries. To test this hypothesis, I created a dummy variable, foreign, that takes the value

1 for cross-listed firms and 0 for local US firms. Then, I ran the baseline regression with the log of Tobin's Q as the dependent variable and foreign, logarithm of sales, and logarithm of industry Tobin's Q as independent variables. All models include a year-fixed effect. The first column of Table IV shows the result of this model. The result shows that on average, being foreign reduces the logarithm of Tobin's Q by 11.7%. This result provided preliminary support for H1. In the second column, I introduce industry-fixed effects in addition to year-fixed effects, and the outcome remains almost unchanged. In the third column, I use only observations with total assets greater than US$1 billion. The result shows a foreign firm discount of 10.4%.

Next, I introduced firm-level control variables such as logarithm of capital expenditure, logarithm of cash holdings, leverage, logarithm of ROA, dividend payout, advertisement, and coverage (see Appendix II for definitions of variables). The result of the model still suggests a significant level of the foreign firm discount. All the control variables are significant and show expected signs. For instance, a high level of debt increases risk for firms and should negatively impact a firm's future valuations; the coefficient for leverage is negative and significant. Conversely, a high return on assets should give investors' confidence in the firm's prospects and contribute to a higher logarithm of Tobin's Q; the coefficient of the logarithm of ROA is positive and significant. However, these control variables did not diminish the quantum of the foreign firm discount in the data. This provides further support for H1.

Lastly, I followed the procedures from the treatment literature and compared foreign firms to equivalent local firms through matching estimation (Frésard and Salva 2010). In this instance, foreign was the treatment group while local was the control or placebo group. I conducted two matching estimations. In the first matching estimation, I used the logarithm of industry Tobin's Q, year, and logarithm of sale as matching criteria. This enables the model to compare foreign firms to local firms and find the most proximal local firms based on the matching variables. I repeated the matching estimation model and added the logarithm of capital expenditure, logarithm of cash, logarithm of ROA, dividend payout, advertisement, and coverage to the initial matching variables. Table V shows the results of the matching estimations. When compared to equivalent local firms, foreign firms suffered a foreign firm discount on both matching estimations. In the first model, foreign firms are discounted about 10.8%. The second matching estimation model shows a steeper discount in the range of 16.7%. This provides conclusive support for H1.

Table IV H1 Testing

	Baseline	**Industry Fixed effect**	**TA>1000**	**firm-level control variables**
Foreign	-0.117***	-0.117***	-0.104***	-0.133***
	(5.95)	(5.55)	(4.32)	(6.98)
Log(sales)	-0.039***	-0.038***	-0.032***	-0.079***
	(10.53)	(9.44)	(4.3)	(17.2)
Log Industry Q	0.889***	0.86***	0.773***	0.682***
	(43.22)	(37.89)	(28.49)	(34.74)
Log CAPEX				0.078***
				(19.54)
Log Cash				0.030***
				(13.07)
Leverage				-0.103***
				(4.27)
LG ROA				0.142***
				(40.33)
Payout				0.542***
				(7.29)
Advt				0.388***
				(14.31)
Cov				0.004***
				(6.91)
Industry FE	No	yes	No	No
Year FE	yes	yes	yes	yes
No of Observation	61509	61509	27613	44825

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table V Matching Estimation

	1	2
ATE Foreign vs Domestic	-0.108***	-0.167***
	(10.19)	(16.44)

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

H2 suggests that the firms from COOs stereotyped as warm should enjoy a lower discount than the firms from COOs stereotyped as cold. Combining the warmth measures and the foreign dummy variable in the same model will lead to multicollinearity because the warmth measures are only available for foreign firms. To go around this, I created two sets of dummy variables: foreign high warmth (FWMH) and foreign low warmth (FWML). FWMH takes the value of 1 for foreign firms from countries with a warmth score greater than or equal to the median warmth score and 0 for every other firm. FWML takes the value of 1 for foreign firms from countries with a warmth score lower than the median warmth score. I reran the model after replacing the foreign variable with the two new dummy variables: FWMH and FWML. There were 3,410 observations with value 1 for dummy variable FWMH; values of FWML were 1 for 3,670 observations.

The first column of Table VIa shows the result of the model. Although the coefficient of the dummy variable FWMH is negative, it is not statistically significant. Conversely, the coefficient of the dummy variable FWML is both negative and significant. I compared the two coefficients by using the linear combination xtgee postestimation model in Stata 14. I wanted to test if the difference between the two coefficients was statistically significant. The result of the linear combination of FWMH and FWML is shown in Table VIb. The result indicates that the difference between the coefficients of FWMH and FWML is statistically significant such that firms from countries stereotyped as low warmth suffer on average a 16% higher discount than firms from countries stereotyped as high warmth. This provides conclusive support for H2.

Table VIa H2 and H3 Testing

	Warmth	Competence
High	-0.036	-0.175***
	(1.43)	(4.98)
Low	-0.207***	-0.106***
	(7.87)	(5.08)
Log(sales)	-0.08***	-0.079***
	(17.31)	(17.21)
Log Industry Q	0.683***	0.683***
	(34.81)	(33.81)
Log CAPEX	0.078***	0.078***
	(19.46)	(19.52)
Log Cash	0.031***	0.031***
	(13.21)	(13.07)
Leverage	-0.104***	-0.104***
	(4.3)	(4.29)
LG ROA	0.142***	0.142***
	(40.39)	(40.34)
Payout	0.542***	0.541***
	(7.29)	(7.29)
Advt	0.39***	0.388***
	(14.38)	(14.31)
Cov	0.004***	0.004***
	(6.82)	(6.87)
Industry FE	No	No
Year FE	yes	yes
No of Observation	44825	44825

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIb High versus Low Warmth

lincom	FWMH	-	FWML			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.168***	0.036	4.7	0	0.098	0.238

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIc High versus Low Competence

lincom	FCPH	-	FCPL			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	-0.069+	0.04	-1.73	0.084	-0.147	0.009

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

In testing H3, I followed a similar procedure for testing H2 because of the similar challenge with incorporating competence measures into the same model with the foreign dummy variable. I created two additional dummy variables: foreign high competence (FCPH) and foreign low competence (FCPL). FCPH took the value of 1 if the competence measure of a firm's COO was greater than or equal to the median competence measure. FCPL took the value of 1 if the competence measure of a firm's COO was less than the median competence measure. I ran a regression model that substituted the foreign dummy variable with the two new variables: FCPH and FCPL. FCPH was 1 for 2,549 observations; FCPL was 1 for 4,531 observations.

The second column of Table VIa shows the result of the model replacing the foreign dummy variable with the duo of FCPH and FCPL. Contrary to the direction of the relationship suggested by H3, the coefficient of FCPH is negative, significant, and larger in absolute terms than the coefficient of FCPL. While firms from countries perceived as high in competence suffer on average a foreign firm discount of 17.5%, firms from countries stereotyped as low in competence suffer on average a foreign firm discount of 10.6%. To test if the difference between the two coefficients is statistically significant, I employed the linear combination xtgee postestimation model in Stata 14. The result of the test is shown in Table VIc. The foreign firm discount that firms from high-competence countries suffer is on average 6.9% higher than the foreign firm discount of firms from low-competence countries; however, the difference is only significant at p<0.10. This test does not support H3.

H4a, H4b, and H4c propose that the combinations of warmth and competence measures will predict the levels of the foreign firm discount on the major US stock exchanges. To address this question, I created four dummy variables to replace the foreign dummy variable in the model. The first variable was foreign high warmth and high competence (FHWHC). This dummy variable took the value of 1 if the warmth measure of a firm's COO was greater than or equal to the median warmth measure and the competence measure of the firm's COO was greater than or equal to the median competence measure. The second variable was foreign high warmth and low competence (FHWLC). This dummy variable took the value of 1 if the warmth measure of a firm's COO was greater than or equal to the median warmth measure and the competence measure of the firm's COO was less than the median competence measure. The third variable was foreign low warmth and high competence (FLWHC). This dummy variable took the value of 1 if the warmth measure of a firm's COO was less than the median warmth measure and the competence measure of the firm's COO was greater than or equal to the median competence measure. The fourth variable was foreign low warmth and low competence (FLWLC). This dummy variable took the value of 1 if the warmth measure of a firm's COO was less than the median warmth measure and the competence measure of the firm's COO was less than the median competence measure. To test the propositions of H4, I replaced the foreign dummy variable with these four new dummy variables: FHWHC, FHWLC, FLWHC, and FLWLC. FHWHC was 1 for 938 observations. FHWLC was 1 for 2,472 observations. FLWHC was 1 for 1,611 observations. FLWLC was 1 for 2,059 observations.

Table VIIa: H4 Testing

Foreign High WRM High CMP	0.113+
	(1.86)
Foreign High WRM Low CMP	-0.085***
	(3.32)
Foreign Low WRM High CMP	-0.281***
	(7.15)
Foreign Low WRM Low CMP	-0.131***
	(4.02)
Log Sales	-0.081***
	(17.47)
Log Industry Q	0.683***
	(34.81)
Log CAPEX	0.078***
	(19.53)
Log Cash	0.031***
	(13.13)
Leverage	-0.106***
	(4.36)
LG ROA	0.142***
	(40.37)
Payout	0.539***
	(7.28)
Advt	0.387***
	(14.33)
Cov	0.004***
	(6.87)
Industry FE	No
Year FE	yes
No of Observation	44825

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIb: Warm and competent COO versus Warm but incompetent COO

lincom	FHWHC	-	FHWLC			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.198***	0.065	3.03	0.002	0.07	0.325

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIc: Warm and competent COO versus cold but competent COO

lincom	FHWHC	-	FLWHC			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.394***	0.072	5.46	0	0.253	0.536

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIId: Warm and competent COO versus cold and incompetent COO

lincom	FHWHC	-	FLWLC			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.244***	0.068	3.59	0	0.111	0.377

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIe: Warm but incompetent COO versus cold but competent COO

lincom	FHWLC	-	FLWHC			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.197***	0.046	4.26	0	0.106	0.287

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIf: Warm but incompetent COO versus cold and incompetent COO

lincom	FHWLC	-	FLWLC			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.047	0.041	1.15	0.252	-0.033	0.126

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIg: cold but competent COO versus cold and incompetent COO

lincom	FLWHC	-	FLWLC			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	-0.15**	0.05	2.98	0.003	-0.248	-0.051

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIa shows the result of the model that includes the four new dummy variables. FHWHC represents firms from the countries that were stereotyped as warm and competent in my data. H4a suggests that this combination of warmth and competence is usually reserved for the ingroup; therefore, firms from countries stereotyped as warm and competent should not suffer a foreign firm discount. In support of H4a, the coefficient for FHWHC is positive and marginally significant at $p<0.10$; that is, on average, firms from the countries stereotyped as warm and competent do not suffer a foreign firm discount on the US stock exchanges. Secondly, H4a suggests that the level of the foreign firm discount, if any, of firms from warm and competent countries should be lower than that of firms from the other three quadrants. To test this argument, I used the linear combination xtgee postestimation model in Stata 14 to compare the coefficients of the other three variables to those of FHWHC. Tables VIIb–d show the results of the test comparing coefficients of FHWHC with those of FHWLC, FLWHC, and FLWLC. In all cases, the coefficients are positive and significant, showing that firms from countries stereotyped as warm but incompetent, cold but competent, and cold and incompetent on average suffer a higher foreign firm discount than firms from countries stereotyped as warm and competent. These results provide decisive support for H4a.

H4b suggests that, on average, the foreign firm discount of firms from countries stereotyped as warm but incompetent will be lower than the discount imposed on firms from countries in the other two quadrants: low warmth/high competence and low warmth/low competence. H4c suggests that the foreign firm discount on firms from cold but competent countries will on average be lower than the foreign firm discount on cold and incompetent countries. To test H4b and H4c, I compared the coefficients of variables FHWLC, FLWHC, and FLWLC using the linear combination xtgee postestimation model in Stata 14. Tables VIIe–g show the results of these tests. Although the difference between the coefficients of FHWLC and FLWHC is positive and significant, the difference between the coefficients of FHWLC and FLWLC is positive but not statistically significant. While firms from warm but incompetent countries on average suffer a lower foreign firm discount than firms from cold but competent countries, there is no statistically significant difference between the foreign firm discount of firms from warm but incompetent countries and firms from cold and incompetent countries. This provides partial support for H4b. Lastly, the difference between the coefficients of FLWHC and FLWLC shows that firms from cold but competent countries on average suffer a higher discount than firms from cold and incompetent countries. This contradicts the prediction of H4c.

Table VIIIa: H5 testing

	Admiration	Sympathy	Resentment	Jealousy
Foreign High	-0.032	-0.027	-0.185***	-0.032
	(1.32)	(1.18)	(6.21)	(1.32)
Foreign Low	-0.216***	-0.261***	-0.083***	-0.216***
	(8.03)	(8.84)	(3.63)	(8.03)
Log(sales)	-0.08***	-0.079***	-0.08***	-0.08***
	(17.38)	(17.21)	(17.25)	(17.38)
Log Industry Q	0.683***	0.681***	0.683***	0.683***
	(34.82)	(34.76)	(34.79)	(34.82)
Log CAPEX	0.078***	0.078***	0.078***	0.078***
	(19.45)	(19.53)	(19.48)	(19.45)
Log Cash	0.031	0.031***	0.031***	0.031
	(13.2)	(13.29)	(13.08)	(13.2)
Leverage	-0.104***	-0.104***	-0.104***	-0.104***
	(4.29)	(4.31)	(4.3)	(4.29)
LG ROA	0.142***	0.142***	0.142***	0.142***
	(40.41)	(40.41)	(40.35)	(40.41)
Payout	0.541***	0.542***	0.541***	0.541***
	(7.29)	(7.3)	(7.28)	(7.29)
Advt	0.389***	0.388***	0.389***	0.389***
	(14.38)	(14.37)	(14.34)	(14.38)
Cov	0.004***	0.004***	0.004***	0.004***
	(6.87)	(6.77)	(6.86)	(6.87)
Industry FE	No	No	No	No
Year FE	yes	yes	yes	yes
No of Observation	44825	44825	44825	44825

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIIb: High versus Low Admiration

lincom	FADH	-	FADL			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.183***	0.035	5.19	0	0.113	0.252

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIIc: High versus Low Resentment

lincom	FRSH	-	FRSL			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	-0.101**	0.036	2.79	0.005	-0.173	-0.03

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIId: High versus Low Sympathy

lincom	FSYH	-	FSYL			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.234***	0.036	6.51	0	0.164	0.305

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Table VIIIe: High versus Low Jealousy

lincom	FJEH	-	FJEL			
LGTQ	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
1	0.183***	0.035	5.19	0	0.113	0.252

Significance levels: + p<0.10 * p<0.05 ** p<0.01 *** p<0.001

To test the arguments of hypothesis 5, I applied similar procedures for testing H2 and H3. The affect variables were only available for the foreign firms; therefore, incorporating these variables into the same model with the foreign dummy variable would result in multicollinearity in the model. To test H5a, H5b, H5c, and H5d, I created dummy variables with high and low measures of admiration, resentment, sympathy, and jealousy. As I did with H2 and H3, I grouped the variables as high and low on these four measures. High dummy variables captured observations from countries with scores greater than or equal to the median score; low dummy variables captured observations from countries with lower than the median scores.

Dummy variable foreign high admiration (FADH) had a value of 1 for 3,612 observations. Dummy variable foreign low admiration (FADL) had a value of 1 for 3,468 observations. I replaced the foreign dummy variable in the base model with the two admiration dummy variables: FADH and FADL. H5a suggests that a feeling of admiration toward a country should reduce the level of the foreign firm discount such that firms from countries with high admiration scores will have a lower foreign firm discount than firms from countries with low admiration scores. Results in the first column of Table VIIIa show that while, on average, the firms from countries with high admiration scores are not discounted (Mean=-0.032, NS), the firms from countries with low admiration scores are discounted by 21% (Mean=-0.216, P<0.000). In addition, I compared the coefficients of the FADH and FADL using linear combination xtgee postestimation model in Stata 14. Table VIIIb shows the result of the comparison. The result confirms that the difference between the coefficients of the two dummy variables is significantly different such that the level of discount of FADL is higher than that of FADH. This result supports H5a.

There were 3,118 observations with values of 1 for dummy variable foreign high resentment (FRSH); 3,962 observations had values of 1 for dummy variable foreign low resentment (FRSL). To test the argument of H5b, I replaced the foreign dummy variable with FRSH and FRSL in the base model. The second column of Table VIIIa contains the result of the revised model. The result shows that FRSH and FRSL lead to different levels of a statistically significant foreign firm discount. While firms from countries with high resentment suffer on average an 18.5% discount, firms from low resentment countries suffer an average foreign firm discount of 8.3%. Table VIIIc shows the comparison of the coefficients of FRSH and FRSL. The analysis shows that the difference between the coefficients is sizeable and significant (Mean=-0.101, p<0.01) and confirms that firms from countries with high resentment measures on average suffer a 10% higher discount than firms from countries with low resentment measures. This provides support for H5b.

There were 4,148 observations with values of 1 for the dummy variable foreign high sympathy (FSYH). There were 2,932 observations with values of 1 for foreign low sympathy (FSYL). To test H5c, I replaced the dummy variable foreign with FSYH and FSYL in the base model. The third column of table VIIIa shows the result of the revised model. The coefficient of FSYH is negative but not significant (Mean=-0.027, NS); the coefficient of FSYL is negative and significant (Mean=-0.261, $p<0.000$). This result suggests that firms from countries with low sympathy scores suffer a higher foreign firm discount than firms from countries with high sympathy measures. I compared the coefficients of FSYH and FSYL dummy variables using the linear combination xtgee postestimation model in Stata 14. Table VIIId contains the result of the comparison and shows that the difference between the coefficients of FSYH and FYSL is significant. The sign of the difference between the two variables also supports the argument that firms from countries with low sympathy measures on average suffer a higher foreign firm discount than firms with high sympathy measures. The results of these analyses support H5c.

While dummy variable foreign high jealousy (FJEH) had 3,612 observations with values of 1, dummy variable foreign low jealousy (FJEL) had 3,468 observations with values of 1. The partitioning of the jealousy variable into high and low dimensions matched exactly the partitioning of the admiration variable into the high and low dimensions. Therefore, just as observations with similar FADH and FJEH are the same, so are observations with similar FADL and FJEL. To test H5d, I replaced the foreign dummy variable in the base model with FJEH and FJEL. The result of the model is shown in the fourth column of Table VIIIa. The foreign firm discount on firms from countries with high jealousy measures disappear (Mean=-0.032, NS); on the other hand, the foreign firm discount on firms from countries with low jealousy measures are high and significant. I used the linear combination xtgee postestimation model in Stata 14 to measure the difference between the coefficients of FJEH and FJEL. Table VIIIe contains the result of the comparison. The result of the comparison shows that the difference between the coefficients of FJEH and FJEL is sizeable and significant such that firms from countries with low jealousy measures suffer a higher foreign firm discount than firms from countries with high jealousy measures. This result supports H5d.

Discussion and Conclusion

In this study, I set out to test the idea that stereotype-based categorizations of firms in capital markets in the United States influence the valuations of the foreign firms listed on publicly traded exchanges in the country. Scholars contend that the warmth and competence components of stereotypes are universal bases for perception (Chattalas et al., 2008; Cuddy et al., 2008). To the best of my knowledge, this is the first study that has applied this stereotype-based categorization in capital markets. I used data from foreign firms cross-listed on the three major exchanges in the US. The foreign firms were from Canada, China, Mexico, the United Kingdom, Ireland, Netherland, Switzerland, Brazil, Argentina, Israel, and Japan. To a large extent, the findings of the study support my hypotheses.

The results of most of the models in this study support my arguments that stereotypes and their affective implications impact the capital market evaluations of foreign firms listed on the publicly-traded equity exchanges in the United States. While perceptions of warmth lead to a lower foreign firm discount, perceptions of competence seem to exacerbate the foreign firm discount on US stock exchanges. Combinations of warmth and competence perceptions produce distinctive patterns that support the usefulness of the warmth and competence variables in capital markets. On average, firms from countries perceived as warm and competent did not suffer a foreign firm discount in my data. Conversely, the firms from countries considered cold but competent suffered the highest level of the foreign firm discount. The foreign firm discount suffered by firms from countries stereotyped as warm but incompetent, as well as firms from cold and incompetent countries, are in between those of the other two categories. Similarly, affective consequences of stereotypes map into different levels of discount in my data. For example, consistent with one of the hypotheses of this study, on average, firms from countries with a high admiration score are not discounted. Stereotype-based categorization can contribute to our understanding of capital market evaluations.

Organization scholars have gathered compelling evidence on the role of categories in markets. Hitherto, organization literature on categories has relied on the prototype as its primary cognition. Others have documented the limitations of prototypes in literature (Durand and Paolella 2013; Glynn and Navis 2013). This paper introduces stereotypes as complementary categorical cognitions. Stereotypes add bias to our understanding of categories. One of the limitations of prototypes is that they cannot capture audience bias; stereotypes can. The stereotype contents of warmth and competence capture the cognitive dimensions of intergroup biases (Dovidio et al. 2010). In addition, these cognitive biases map into the affective dimensions of social evaluations. Hitherto, organization category literature has been silent on the affective implications of categorization. It is difficult to derive affect from prototypes; stereotypes, with their biases, are ready-made for affects. This study captures the implications of cognitive and affective biases in markets.

In addition, despite claiming that categories are ubiquitous in markets, organization theorists' studies of categories have been limited to industry and product categories. In this paper, I suggest COO as an additional dimension of categorization. In capital markets, financial instruments are categorized along industries and COO lines; for instance, market analysts specialize along industry and COO lines. With the introduction of stereotypes as complementary categorical cognition, scholars can now incorporate COO as a basis of categorization in markets.

Scholars in adjacent fields of marketing have theorized and applied the SCM and BIAS map to consumer categorization of organizations. For instance, Aaker et al., (2010) showed that consumers stereotype for-profit and non-profit firms along warmth and competence dimensions; while for-profit firms are stereotyped as competent, non-profits are stereotyped as warm. Similarly, Antonetti and Maklan (2016) showed that consumers might be unwilling to adopt environmentally responsible brands because of the warm and incompetent stereotypes associated with users of these brands. Conversely, consumers want to associate with brands that invoke envy. In addition, scholars in this field extended the SCM model to COO research. Barbarossa et al. (2016) argued that the consumer perceptions of COO warmth and competence influence the blame attribution in a product recall scandal. Aaker (2010) concluded that competence might be the primary stereotype in market settings.

The results of this study contradict Aaker et al., (2010) conclusion that competence is the primary stereotype in markets. In this study, warmth measures seem to be more instrumental in reducing the foreign firm discount. For instance, while the perceptions of high warmth ameliorate the foreign firm discount, perceptions of high competence seem to exacerbate the discount. Similarly, in cases of firms from countries with ambivalent stereotypes of warm but incompetent and cold but competent, it was the firms from the warm but incompetent countries that enjoyed lower levels of the foreign firm discount. The discrepancies between the conclusions of this study and those of Aaker et al., (2010) might be connected to our different empirical settings. Aaker et al., (2010) examined intentions to buy consumer goods; this is transactional in nature. The empirical settings of this study are the capital markets where actors interact continuously; actors in these settings might be interested in dealing with others they perceive as trustworthy; warm stereotypes contribute to that perception of trustworthiness. The nature of the relationships in the empirical contexts might contribute to the salience of stereotype contents of warmth or competence.

Chapter V

Contributions, Limitations, and Future Work

Overview

In this dissertation, I extended category research by introducing an alternative categorical cognition: stereotype. Scholars have questioned the applicability of prototype, the primary categorical cognition in organization theory, in some market situations. Stereotypes are categorical cognitions with affective consequences. The papers in this dissertation discussed stereotypes as bases for market categorization. I theorized and incorporated affective consequences of categorization into the categorical theory of action. Prior studies of organization categories have focused almost exclusively on the cognitive dimension of the categories in markets. By introducing stereotypes as categorical cognitions with affective consequences, I examined how categorical cognitions can result in discrete affects toward categorized groups and how these discrete affects might cue different actions.

In addition, in its empirical settings, this dissertation moved beyond the categorization of products and producers to categorize other actors in markets. The paper on foreign currency markets categorized buyers, sellers, and market arenas; the paper on US exchanges categorized firms based on their COOs. In this dissertation, I showed that alternative patterns of categorization are germane to scholarly understanding of market outcomes. Taken together, the studies in this dissertation have extended our understanding of the role of categories in markets by highlighting the importance of stereotypical categorization and non-product categorization in markets.

Contributions of the Dissertation

This dissertation contributes to the literature in many ways. Firstly, the dissertation draws insight from the literature on stereotypes to extend ongoing discourses on categories in markets. Recent studies have underlined the limitations of the prototype view on categories and called for models of categories that are more responsive to social contexts. One of the central arguments of this dissertation is that introducing stereotypes to the organization theory literature on categories will facilitate the integration of organization categories and their social contexts. Like prototypes, stereotypes are products of social interactions; unlike prototypes, stereotypes are activated by the social contexts of interactions. In addition, this dissertation shows that categorical stereotypes are robust answers to some recalcitrant debates in the organization categories literature. For instance, scholars have wondered why organizations span categories despite audience disapproval of category spanning. I argue that organizations will want to distance themselves from social groupings with unfavorable stereotypes and affiliate with better-stereotyped categories; this might lead to memberships of multiple adjacent categories.

This dissertation continues the exploration of prior sociological arguments on markets. Sociologists have contended that markets are not mindless hyper-rationalization mechanisms but cultural performances and achievements. If markets do not operate on hyper-rationalization, scholars must uncover the mechanisms that underline the operations of markets. In the papers in this dissertation, I argue that in markets (especially financial markets), stereotypes are part of the key sensemaking mechanisms that underline the operations of market exchanges. Borrowing from social psychology literature on social groups and stereotypes, I contend that actors in markets stereotype other actors, market processes, and market products; these stereotypes underpin important market activities and outcomes. In addition, the papers in this dissertation also touch on the unfolding global economic integrations. While prior studies have examined the uncanny homogenizing of global markets, this dissertation expatiates on how national idiosyncrasies shape market globalization in different empirical contexts.

Managerial Implications

The disconnect between firms' category-based actions and category scholarship in organization studies partly inspired my theorizing about categorical stereotypes; managers seem to act contrary to the ubiquitous conclusions in the literature that firms should streamline their categorical affiliations. This disconnect might be because managers not only respond to their firms being grouped; they also respond to the labels of their firms' groups. For instance, despite the usual admiration of Silicon Valley-based technology firms, the sexist stereotypes associated with this firm group are not going away; these labels are creating tensions between Silicon Valley firms and many of their important audiences. Usually, when managers act to correct these stereotypes, their responses might lead to affiliation with groups with better labels, resulting in what scholars refer to as category spanning. However, as the theories on stereotypes suggest and the Silicon Valley case reveals, acting counterstereotypical does not automatically change group stereotypes. Despite multiple actions and assurances to the contrary, the narrative of sexist Silicon Valley has not abated. Stereotyped firms might need to go beyond acting counterstereotypical to change the negative labels of their groups. This is partly because audiences interpret group members' actions stereotypically. To successfully change negative labels, firms might need a buy-in from key audiences. Also, managers need to understand that contexts influence their firms' vulnerability to stereotypes and category-induced actions. Untoward events can refocus audiences' attention on labels attached to specific organization groups. For instance, the 9/11 terrorist attacks accentuated cold stereotypes associated with the global arms industry (Vergne 2012).

Study Limitations

Paper 2: Like many qualitative studies, the empirical setting of this study might be considered extreme on many accounts. At the hubs of global financial infrastructures, central banks rarely overtly influence exchange rates as this might send the wrong signals to the markets. However, during periods of crisis or change, central banks often drop the veil of impartiality and reveal how they categorize economic activities, market actors, and even monies; for instance, central banks delineate between the currency speculators and the actors that participate in foreign currency markets because of other underlining transactions (Carruthers 2010; Tognato 2012). In addition, the global foreign currency market, although one of the largest and probably most global financial markets, might be considered atypical in sociologies of monies and finance. This is partly because at hubs of global financial infrastructure, foreign currency markets are blended into the global foreign exchange market; similar generalizations cannot be made of many emerging countries such as Nigeria (Hájek 2017). The foreign currency markets are part of the arenas where states play to forestall economic collapse. Many countries have relied on the inflow of foreign currencies in one form or another to support their economic growth; therefore, they are liable to shocks engendered by rapid flows of foreign currencies across their borders. The currency crisis of the late 1990s among Asian countries underscored the challenges emerging countries face when they open their borders to the free flow of foreign capital into their markets. Lastly, the idiosyncrasies of the Nigerian institutional environment might limit the applicability of the mechanisms identified in this study to other empirical settings. Future studies can examine other money markets to see how earmarking can fragment, categorize, and reshape relations, social meanings, and accounting values of monies across different boundaries instituted or constituted by earmarking activities.

Paper 3: Like any empirical studies, this study has limitations that might impact the conclusions that can be drawn from it. Firms that cross-list their equities outside their COOs are usually among the most reputable in their home countries. Studies have shown that these firms enjoy premium valuations when compared to other firms in their COOs. In addition, I relied only on data from the firms listed on the major exchanges in the US; these are usually elite firms. By using data from these elite firms, this study might have been conservative on the levels of the foreign firm discount in the financial market. Similarly, I focused on firms from countries with the highest numbers of firm-years in my initial data. Given that stereotypes thrive in the absence of repeated interactions, the impact of stereotypes on firms from countries with fewer representatives on major exchanges should have been higher. Both limitations strengthen my case that COO-based stereotypical categorizations play essential roles in market valuations.

Future Research Directions

Understanding the stereotypes of organizational categories can open new avenues for scholars to explore firm groups, audiences' actions, and grouped members' reactions. Stereotypes are cognitive lenses used to evaluate social groups. Audiences do not simply evaluate group members solely on their proximity to the prototypical members; they also consider the stereotypes associated with the groups. How these stereotypical judgments affect firms' reactions and responses has not been adequately explored in organization theory. As stated earlier, responses to negative stereotypes can lead to category spanning and/or the emergence of new categories. The mechanisms through which labels lead to various group alignments and realignment strategies require further exploration. Similarly, this dissertation argues that different audiences can hold different stereotypes for the same group of actors. We know little about how firms respond to different and conflicting labels by important audiences. Studies about decoupling might guide how stereotyped organizations respond to conflicting labels. Scholars have argued that organizations respond to conflicting pressures by decoupling actions and responses across audiences and time. The extent to which decoupling can be successful in the contexts of categorical labels is an important empirical question.

Some scholars have argued that stereotypes can only lead to stigmas when the audiences are more powerful than the categorized population (Link and Phelan 2001). However, this assertion is based on person-based categorical stigmas. The links between group stereotypes and group stigmas in organization theory present another avenue for fruitful future research. Understanding the mechanisms that link negative stereotypes to stigma will contribute to our understanding of the operations of stereotypes and stigma in organization research. Another fruitful avenue for future research is to explore forms of power or social capitals that can lead to stigmatization of firm groups.

In addition, the SCM and BIAS map models link stereotypes with emotions directed toward members of categories; the emotional consequences of organization categories are additional avenues for further research. Categorical stereotypes are cognitive structures with emotional consequences. Scholars interested in category-based actions will profit from understanding category-invoked emotions. Similarly, how emotional responses to firm groups translate into actions among audiences and grouped firms needs further exploration; some emotions lead to actions while others create inertia (Harmeling et al., 2015). More empirical and theoretical works are needed to untangle the relationship between stereotype-inspired emotions and the actions of audiences as well as reactions of categorized firms.

Scholars need to pay attention to the intensity dimensions of category-inspired actions. Extant research on firm groups discusses category-based actions only along valence dimensions (i.e., harm and facilitation) and neglect the intensity dimensions (i.e., active and passive). Pragmatically, firms could ignore passive threats with limited consequences; however, active threats due to stereotypes can have dire consequences if ignored. This intensity dimension might be key to why group members respond to some audience actions while ignoring others.

This study draws extensively from the stereotype scholarship in cognitive and social psychology. Person-based categories are the focus of this psychological literature. Building on ongoing scholarship in consumer behavior research, I argue that firm- and product-based categories are also stereotyped (Aaker et al., 2010; Diamantopoulos et al., 2017). Extant studies in psychology have suggested that warmth is the primary stereotype dimension and that it influences active behavior; firm- and product-based groups might provide the boundary conditions for this argument. Preliminary works in consumer behavior suggest that competence might be the primary stereotype dimension for many audiences of firm groups (Aaker et al., 2010). Investors and analysts expect organizations to meet key criteria such as quarterly earnings. Further scholarly works will be required to uncover the dynamics of the two components of stereotypes in firm and product categories. If competence is the primary stereotype in firm groups, will it also be the antecedent of active behaviors?

Future studies can build on the arguments put forward in this paper to examine ongoing debates in organization studies. First, scholars can examine categories through both prototypical and stereotypical cognitions. Different product and industry categories are perceived with warmth and competence stereotypes. Introducing stereotypical evaluations can facilitate scholarly understanding of why audiences hold different views about ostensibly similar prototypes. Sharkey (2014) argued that the perception of industry status influences audiences' evaluations of firms' actions. Introducing stereotypes into the mix will capture additional dimensions of audience evaluation of market actors and activities. For instance, how might similar industries be evaluated in different countries? Secondly, the intersections of industry categorizations and COO categorizations are other avenues for future research. The implications of the intersection of COO and industry categories are underexplored in category research. Common labels, such as German car, Swiss chocolate, and French wine, go beyond confirmed qualities to other higher cognitive and affective connotations. Understanding the stereotypes held at the intersections of product/industry and COO categories is another opportunity for future research. Lastly, stereotypes can also shed light on firms' foreign product market entry strategies. Hitherto, internationalization strategies have focused exclusively on many technical and institutional variables and have neglected intergroup perception variables. For instance, will firms be more likely to form alliances with other firms from countries stereotyped as warm and competent than with firms from countries stereotyped as cold and incompetent?

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APPENDICES

Appendix I: HISTORICAL SUMMARY OF FOREIGN CURRENCY CRISIS IN NIGERIA

The foreign Currency crisis in Nigeria from 2014 to 2017: A synopsis

By late 2014, the signs of difficult times awaiting Nigeria were apparent: foreign currency scarcity had hit all the foreign currency markets, the gaps between exchange rates at the official markets and the parallel markets were widening. The official and the parallel markets for foreign currency had coexisted for decades in Nigeria; however, at normal times, the difference in exchange rates are within the globally accepted 5% range (Ayogu, 1997). The Central Bank of Nigeria began to implement strategies to conserve the nations' foreign currency position. The CBN increased the capital requirement for Bureau De Change (the Bureau de Changes are organization licensed by the CBN to cater for small foreign currency demands; they are the CBN strategic alternative to the parallel markets that were beyond CBN's regulatory reach) and barred banks from holding their shareholders' funds in foreign currencies.

Additionally, CBN excluded power generating sets from the official markets. By the first quarter of 2015, the foreign currency supply crunch was limiting the options of the CBN and the apex bank closed 2 of the three markets it regulates: retail Dutch Auction System (rDAS) and the wholesales Dutch Auction System (wDAS). These two markets were the avenues through which the CBN directly sell foreign currency to end-users through authorized dealers, i.e., the commercial banks. The third market, interbank, was the window for foreign currency trading between banks; the CBN also regulates this market. However, sometimes the CBN also participate as either seller or buyer in the interbank market. Already, there were rate gaps between wDAS, rDAS on the one hand and the interbank markets on the other. Foreign currencies commanded higher exchange rates at the interbank market that the other two official markets; therefore, by closing the rDAS and wDAS, the CBN officially devalued the naira. The closure of the two markets further devalued the Naira at the interbank market; the CBN temporarily closed the interbank because of the naira devaluation.

At this point, debates about the value of the Naira dominated the economic and financial discourses in the country because the disparities between the official interbank market and parallel markets exchange rates were too apparent to be ignored. Nigerians were reluctant of holding the Naira, and many transactions in the country were carried out in US dollars. The CBN launched a campaign against what it called “the dollarization of the economy”; there were rumors that the CBN intended to convert the dollar deposits in private accounts to naira equivalences. To manage the supply, the CBN mandated all export proceeds to be repatriated to Nigeria within 180 days and be routed through the official interbank market. However, the exporters were reluctant to sell at the interbank markets given that their foreign currency proceeds could have traded for more at the parallel markets; many exporters withheld their proceeds for years until the CBN opened an exclusive window for sales of export proceeds.

In addition to addressing the supply side of the interbank market, the CBN moved to reduce demand in the interbank market: a strategy the CBN governor called “demand management”. In the second quarter of 2015, the CBN release a list of 41 items that were barred from the interbank market; this meant importers of these items could not source for foreign currencies in the interbank market. During this period, the gap between the parallel market exchange rates and the interbank exchange rates continued to increase because the CBN pegged the exchange rates in the interbank market. This made the Naira cheaper in the parallel markets. In 2015, exchange rates in parallel markets ranged between 220 – 270/US$ as against 199/US$ in the official interbank markets;

therefore, many Nigerians refused to patronize the official interbank markets. Besides, the significant proportion of the over $30 billion remittances from Nigerians in the diaspora were converted to Naira at exchange rates benchmarked against the parallel markets. All these factors contributed to a severe lack of liquidity in the interbank market.

By the third quarters of 2015, multiple exchange rates for foreign currencies were the norm in the markets. The Nigerians holding foreign currency, unsure of the future of the Naira, refused to trade with their hard currencies for the naira. This situation became challenging for commercial banks in Nigeria as there were billions of dollars (or equivalent foreign currencies) in bank vaults in the country; these were assets that the banks did not know how to value because of the then prevailing multiple exchange rates in the system. Some commercial banks stopped collecting foreign currencies from depositors; the CBN backed this measure and directed banks to stop collecting foreign currency with the hope that this will stem the use of dollar for business transactions in the country. All the while, the CBN refused to devalue the naira further; this stance led JP Morgan to threaten the removal of Nigerian government bonds from its emerging market indices tracked by many fund managers in the world. The threat put more pressure on the CBN and signaled bleak future for the foreign currency markets in Nigeria because delisting will mean less inflow of foreign portfolio investment into the country.

In the fourth quarter of 2015, inflation rose to 9.4%; this rate was outside the inflation target of the CBN. CBN had an inflation target range between 6 – 9%. In addition, the new government in Nigeria had not constituted its economic team six months after its inauguration. This uncertainty in the policy direction of the new government and other factors prodded Nigeria towards economic recession for the first time in 3 decades. In addition, there was fuel scarcity in the country. Supply of fuel is a sensitive political issue in Nigeria. Although Nigeria is an oil producing country, most the petroleum products consumed in the country are imported. The availability of petroleum products influenced many policy objectives of the Nigerian government. The fuel scarcity at the end of 2015 was blamed on the inadequate supply of foreign currencies for imports of petroleum products. In response, the CBN drew up a list of economic activities that enjoyed foreign currency allocation priorities: existing letters of credit, importation of petroleum products, importation of raw materials and machineries.

CBN priority list meant many products that could participate in the official markets could not get foreign currency allocations; the unmet demand drove exchange rates up in the parallel markets in the first quarter of 2016; the exchange rates in the parallel market were close to 400/$, more than double the exchange rates in interbank markets that were still pegged at 197-199/$. In the wake of the disparity in exchange rates, CBN mooted the idea of 2 tier foreign exchange markets (i.e., two official exchange rates for the dollar). While CBN lifted the ban on dollar deposit into foreign currency denominated accounts, it added foreign trips for medical treatment fees and foreign school fees to list of activities that cannot be funded through the interbank markets. All these measures did not significantly reduce the demand for foreign currencies and exerted downward pressure on the value of the naira. In the second quarter of 2016, CBN decided to allow the naira to float and the naira lost over 40% of its value in the first few trading sessions. Naira exchange rate to the dollar fell from less than 199/$ to over 300/$. Due to lack of access to the foreign currency markets and the billions of dollars of revenue in Naira that they cannot convert to dollars, the foreign airlines operating in the country in 2016 moved their offices away from Nigeria to Ghana. In a bit to save the country airline sectors from sanctions from the IATA, CBN added the airline industry to the list of key sectors that would enjoy preferential access to foreign currencies in the interbank markets. Even after floating the naira, the gap between the interbank and parallel markets persisted; by third quarter 2016, while Naira was trading at just above 305/$ in the interbank market, the exchange rate in the parallel market was close to 500/$. At this point, the interbank market was illiquid after the CBN instructed international oil companies (IOCs) operating in Nigeria to sell their foreign currency proceeds exclusively to oil importers (recall importations of petroleum products are sensitive political issue in Nigeria). Also, the CBN further instructed that 60% of foreign currencies traded on the interbank markets must be allocated to vital sectors: airline, agriculture, and manufacturing. After these allocations, the interbank markets were virtually moribund.

Meanwhile, inflation concerns became paramount to decision makers in the CBN, and this led to an increase in the Monetary Policy Rate (the benchmark interest rate in Nigeria: MPR). The increase in interest rate did not translate to a reduction in the inflation rate as the inflation rate climbed to 18% at the end of 2016. By the third quarter of 2016, Nigeria was officially in recession for the first time in decades. The Nigeria's Minister of Finance was not amused by the CBN decision to increase interest rates during the economic recession. She public called for a reduction in interest rate to stimulate the economy; a call the CBN rebuffed claiming that maintaining stable prices was its primary mandate.

Despite all the measures that CBN took to weaken the parallel market, the platform was still vibrant and seem to be the reference point for foreign currency exchange rates by investors and ordinary Nigerians. Therefore, the CBN was relieved and delighted when the Nigerian government cracked down on parallel market operators in major cities across the country. The CBN branded operators of the parallel markers as saboteurs and promised to follow a policy that will shrink the parallel markets. The measure worked temporarily, and exchange rate in parallel market nosedived.

However, since the supply situation was not resolved, parallel markets rebounded with rates hovering around 500/$ in the first quarter of 2017.

By the end of the first quarter of 2017, crude oil prices were improving, and the production disruptions were resolved. This led to increased foreign currency revenues for the Nigerian government and improved CBN's ability to meet foreign currency demands in the interbank market; this improved the liquidity in the interbank markets. The CBN reinstated payments for foreign medical treatments and oversea school fees into the interbank markets and rescinded its decision to channel 60% of foreign currency to manufacturing and agriculture. In addition, the CBN acknowledged that it had been preventing the Naira to fall below certain exchange rates in the interbank markets because it believed that the exchange rates in the interbank markets were the fair value of the Naira. Exchange rates in parallel markets dropped below 400/$ towards the end of the first quarters of 2017.

In the second quarter of 2017, the foreign currency earnings of the CBN increased significantly, and it was able to support the interbank market. For the first time for a long time, authorized dealers in the interbank market did not buy all the foreign currencies the CBN supplied. In addition, the CBN cleared a significant proportion of backlog of requests, totaling into billions of dollars. The CBN introduced another market window it christened Investors and Exporters window (I&E); as the name implied, this market was targeted at the foreign investors and the non-oil exporters to trade their foreign currencies. In this market, CBN allowed foreign currencies to float freer than in the interbank market; exchange rates in the I&E were equivalent to exchange rates in the parallel markets. This market quickly caught on with investors; and foreign portfolio investment inflows into Nigeria increased significantly after the introduction of the I&E window, thereby, increasing foreign currency supplies in Nigeria.

Nigeria exited recession in the first half of 2017 and inflation reduced for the first time in 20 months. However, the inflation rate was still in the high teens during this period; therefore, the CBN kept the MPR at 14%. Exchange rates were stable at the markets, and there was a convergence between I&E exchange rates and parallel market exchange rates; Naira was still valued at close to 20% higher in the interbank market than in the I&E and parallel markets. The external reserve that had been dwindling stood close to historic highs; in addition, investors confidence in Nigeria seemed to be restored. The stability of the markets won the CBN governor multiple accolades both locally and internationally for stabilizing the foreign currency markets; these awards include Forbes® Magazine Best of Africa Innovative Award conferred on the CBN governor in early 2018.

Appendix II: DETAILS OF VARIABLES

Variable	Definition	Source
Firm		
Foreign	Dummy Variable that takes the value of 1 if the firm is cross-listed and 0 if the United States based	Various source
Total Asset	The book value of firms' total assets (in millions of USD)	Worldscope, Datastream
Sales	yearly sale (in millions of USD)	Worldscope, Datastream
Tobin's Q	The book value of Asset – book value of equity + market value of equity/book value of the asset	Worldscope, Datastream
Log Tobin's Q	Natural Logarithm of Tobin's Q	Worldscope, Datastream
Log of Industry's Q	median Log Tobin's Q for the firm's industry (2 digit SIC code)	Worldscope, Datastream
Capital expenditure	Capital expenditure divided by total assets	Worldscope, Datastream
Cash Holding	Cash and marketable security divided by total assets	Worldscope, Datastream
leverage	total debt divided by total assets	Worldscope, Datastream
payout	Cash dividend divided by total assets	Worldscope, Datastream
ROA	return on asset	Worldscope, Datastream
Coverage	Number of analysts issuing at least one earning forecast per year	I/B/E/S international summary files
Advertising	Selling, general, and administrative expense divided by total assets	Worldscope, Datastream
Country		
Warmth	US citizens perception of warmth towards citizens of the focal country	Survey questions
Competence	US citizens perception of competence towards citizens of the focal country	Survey questions
Admiration	US citizens feeling of admiration towards citizens of the focal country	Survey questions
Jealousy	US citizens feelings of jealousy towards citizens of the focal country	Survey questions
Sympathy	US citizen feelings of sympathy towards citizens of the focal country	Survey questions
Resentment	US Citizen feelings of resentment towards citizens of the focal country	Survey questions

Appendix III: SURVEY QUESTIONS

S/No	**questions**
1	As viewed by the American Society, Canadians are good natured
2	As viewed by the American Society, Canadians are generous
3	As viewed by the American Society, Canadians are intelligent
4	As viewed by the American Society, Canadians are effective
5	Americans admire Canadians
6	Americans feel sympathy for Canadians
7	Americans are jealous of Canadians
8	Americans resent Canadians
9	As viewed by the American Society, Chinese are good natured
10	As viewed by the American Society, Chinese are generous
11	As viewed by the American Society, Chinese are intelligent
12	As viewed by the American Society, Chinese are effective
13	Americans admire Chinese
14	Americans feel sympathy for Chinese
15	Americans are jealous of Chinese
16	Americans resent Chinese
17	As viewed by the American Society, British are good natured
18	As viewed by the American Society, British are generous
19	As viewed by the American Society, British are intelligent
20	As viewed by the American Society, British are effective
21	Americans admire British
22	Americans feel sympathy for British
23	Americans are jealous of British
24	Americans resent British
25	As viewed by the American Society, Brazilians are good natured
26	As viewed by the American Society, Brazilians are generous
27	As viewed by the American Society, Brazilians are intelligent
28	As viewed by the American Society, Brazilians are effective
29	Americans admire Brazilians
30	Americans feel sympathy for Brazilians
31	Americans are jealous of Brazilians
32	Americans resent Brazilians
33	As viewed by the American Society, Israelis are good natured
34	As viewed by the American Society, Israelis are generous
35	As viewed by the American Society, Israelis are intelligent
36	As viewed by the American Society, Israelis are effective
37	Americans admire Israelis
38	Americans feel sympathy for Israelis
39	Americans are jealous of Israelis

40	Americans resent Israelis
41	As viewed by the American Society, Mexicans are good natured
42	As viewed by the American Society, Mexicans are generous
43	As viewed by the American Society, Mexicans are intelligent
44	As viewed by the American Society, Mexicans are effective
45	Americans admire Mexicans
46	Americans feel sympathy for Mexicans
47	Americans are jealous of Mexicans
48	Americans resent Mexicans
49	As viewed by the American Society, Dutch are good natured
50	As viewed by the American Society, Dutch are generous
51	As viewed by the American Society, Dutch are intelligent
52	As viewed by the American Society, Dutch are effective
53	Americans admire Dutch
54	Americans feel sympathy for Dutch
55	Americans are jealous of Dutch
56	Americans resent Dutch
57	As viewed by the American Society, Irish are good natured
58	As viewed by the American Society, Irish are generous
59	As viewed by the American Society, Irish are intelligent
60	As viewed by the American Society, Irish are effective
61	Americans admire Irish
62	Americans feel sympathy for Irish
63	Americans are jealous of Irish
64	Americans resent Irish
65	As viewed by the American Society, Argentines are good natured
66	As viewed by the American Society, Argentines are generous
67	As viewed by the American Society, Argentines are intelligent
68	As viewed by the American Society, Argentines are effective
69	Americans admire Argentines
70	Americans feel sympathy for Argentines
71	Americans are jealous of Argentines
72	Americans resent Argentines
73	As viewed by the American Society, Swiss are good natured
74	As viewed by the American Society, Swiss are generous
75	As viewed by the American Society, Swiss are intelligent
76	As viewed by the American Society, Swiss are effective
77	Americans admire Swiss
78	Americans feel sympathy for Swiss
79	Americans are jealous of Swiss
80	Americans resent Swiss

81	As viewed by the American Society, Japanese are good natured
82	As viewed by the American Society, Japanese are generous
83	As viewed by the American Society, Japanese are intelligent
84	As viewed by the American Society, Japanese are effective
85	Americans admire Japanese
86	Americans feel sympathy for Japanese
87	Americans are jealous of Japanese
88	Americans resent Japanese

Appendix IV: MEAN, STANDARD DEVIATION, AND CORRELATION OF VARIABLES

		Mean	S.D	Foreign	Log of Sales	Log Tobin's Q	Log of Industry's Q	Log Capital expenditure
1	Foreign	0.112	0.315	1.000				
2	Log of Sales	13.591	1.753	0.068	1.000			
3	Log Tobin's Q	0.483	0.564	-0.089	-0.080	1.000		
4	Log of Industry's Q	0.427	0.242	-0.030	-0.153	0.439	1.000	
5	Log Capital expenditure	1.501	1.078	0.045	0.055	0.080	-0.093	1.000
6	Log Cash Holding	11.130	2.025	0.183	0.507	0.173	0.126	-0.118
7	leverage	0.251	0.227	-0.020	0.150	-0.16	-0.205	0.04
8	payout	0.014	0.051	0.024	0.081	0.086	-0.009	0.007
9	Log ROA	1.830	0.858	0.005	0.022	0.437	0.149	0.102
10	Coverage	9.420	8.460	-0.001	0.454	0.187	0.024	0.088
11	Advertising	0.246	0.217	-0.157	-0.072	0.250	0.224	-0.058
12	Warmth	4.610	0.931	0.977	0.076	-0.075	-0.033	0.059
13	Competence	4.913	0.639	0.990	0.068	-0.081	-0.023	0.047
14	Admiration	4.236	0.831	0.979	0.079	-0.071	-0.027	0.054
15	Jealousy	3.115	0.568	0.981	0.070	-0.079	-0.029	0.056
16	Sympathy	3.597	0.289	0.996	0.069	-0.083	-0.030	0.048
17	Resentment	3.068	0.760	0.967	0.041	-0.101	-0.026	0.034

		Log Cash Holding	leverage	payout	Log ROA	Coverage	Advertising	Warmth
6	Log Cash Holding	1.000						
7	leverage	-0.113	1.000					
8	payout	0.030	0.067	1.000				
9	Log ROA	0.088	-0.124	0.131	1.000			
10	Coverage	0.423	-0.013	0.032	0.0944*	1.000		
11	Advertising	-0.061	-0.193	-0.011	0.1328*	-0.049	1.000	
12	Warmth	0.173	-0.014	0.024	0.000	0.015	-0.16	1.000
13	Competence	0.182	-0.024	0.023	0.001	0.002	-0.154	0.979
14	Admiration	0.179	-0.016	0.025	-0.001	0.013	-0.156	0.996
15	Jealousy	0.175	-0.02	0.023	-0.001	0.01	-0.16	0.992
16	Sympathy	0.181	-0.018*	0.025	0.004	0.004	-0.157	0.988
17	Resentment	0.171	-0.031	0.020	0.008	-0.016	-0.149	0.906

		Competence	Admiration	Jealousy	Sympathy	Resentment
13	Competence	1.000				
14	Admiration	0.988	1.000			
15	Jealousy	0.993	0.994	1.000		
16	Sympathy	0.987	0.987	0.984	1.000	
17	Resentment	0.956	0.909	0.930	0.948	1.000