

THREE ESSAYS ON MORALITY, IDENTITY, AND ECONOMIC REGULATION

by

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Three Essays on Morality, Identity, and Economic Regulation

A dissertation submitted in partial fulfillment of the requirements for the degree of  
Doctor of Philosophy at George Mason University

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# **Abstract**

## THREE ESSAYS ON MORALITY, IDENTITY, AND ECONOMIC REGULATION

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Institutions matter. They define our universe of choices and push us to action. Formal institutions such as laws and regulations provide a macro-level backdrop dictating what we can and cannot do; informal institutions such as morality or identity are reflections of individual conviction. Combined, these institutions alter the relative price of any decision. For example, increased regulations often stifle entrepreneurship while a commitment to cooperation might preclude our desires towards corruption. Often these two types of rules work hand in hand: characteristics like trust and tolerance are more likely to be found in countries with better economic outcomes because they allow formal institutions to run more smoothly (Mathers and Williamson, 2011; Boettke et al., 2008; Leeson, 2005). Despite the interconnectedness, however, economic literature has placed more emphasis upon the importance of formal institutions in determining outcomes due, in large part, to ease of measurement and modeling. My dissertation emphasizes why this literature is insufficient.

Chapter 1 of the dissertation explores the impact of economic institutions and outcomes on moral behavior. In particular, I illustrate an empirical relationship between economic freedom and materialism or greed. It answers the following question: “Are countries that favor markets—i.e. places with relatively smaller governments, high quality legal systems and property right, sound money, freedom to trade internationally, and lower levels of

regulation—more likely to have citizens that are greedy or materialistic?” Outside of the economics literature, much has been said to support the idea that markets make us morally destitute since with more opportunities and more material goods to acquire, we necessarily will cave into our appetitive and non-virtuous behaviors (Aristotle, 1984; Marx and Engels, 2002; Aquinas, 1989; Sandel, 2012). The results from this chapter suggest, in reality, the relationship is reversed: countries with more economic freedom have fewer individuals that answer survey questions in greedy or materialistic ways.

I support this empirical result with two theoretical explanations: (1) *The market makes us richer and being richer allows us to focus on alternative, non-material things*. Individuals that have the ability to acquire more material goods may not necessarily do so because with increased wealth individuals also have the ability to acquire other non-material goods. (2) *Economic Freedom may lead to faith in the rules of the system and so there’s not a need to be as material focused*. When individuals do not have to worry about their goods being stolen by criminals or governments, they spend less time and money focusing on and protecting their goods.

This chapter ultimately shows us how cultural characteristics like materialism or greed, and economics are possibly connected. It suggests that economic systems may have an impact on our moralities, adding more depth to the current literature that draws empirical connections between high quality economic systems and social, political, and economic outcomes. Chapter 2 builds on the first by exploring what identity is and how it can impact political outcomes. *Identity and Integration: Cultural Persistence and the Vote for the Eurozone in France* uses several surveys—both historical and current—to show that regionalist identities in France (current and historical) are highly correlated with a particular political outcome: accession into the Eurozone. This empirical result raises several important questions as to how identity can effect political and economic outcomes. The first of which is why we would observe minority groups wanting to become a part of a larger political unit when they are currently unhappy with the one they currently reside within. The literature

on state formation suggests that this empirical result is inconsistent: states generate support for their legitimacy by shaping the preferences of those they rule—that is, they turn peasants into Frenchmen (Weber, 1976). The finding in this chapter suggests otherwise. Minorities may be the reason why supranational organizations like the EU exist.

The existence of these identities and their persistence raises another important set of questions: Why do regional identities form in the first place? And, for that matter, what makes them persist? This chapter posits that regional identities exist (and persist) because their requests to preserve and improve their local identities (culturally, politically, or economically) have not been met by the nation-state. As a result, identity acts as a social tool that minorities use to coordinate efforts to resolve social dilemmas.

This leads to the final question that this chapter seeks to answer: what actions can regional minorities take to resolve social dilemmas? Current literature suggests that minorities have three options: secession (when one piece of a country breaks off to form a new one), civil war (when there is violent conflict between the minority and majority groups of a country), or assimilation (when the majority concedes to minority interests and the minority is assuaged). The results from this chapter suggest a fourth: accession into a supranational organization.

These questions are important because they inform us the ways in which political relationships can shape identity and how the existence of these identities can lead to the formation of a larger economic/political units in ways the literature has not yet touched upon. The findings have implications for larger work in culture and economics, as well as the impacts of heterogeneity on market formation, the optimal size of nations, and finally, upon the persistence and existence of minority identities.

Chapter three revisits the formal institutions literature by documenting, at a more micro-level, business regulations in the United States. In *Barriers to Entry Index: A Ranking of Starting a Business Difficulties for the United States*, I index and rank various groups of variables that proxy barriers to business entry—accountability, processing time, fees, and bureaucratic difficulties—at the state level in two methods.

The first method uses principal components analysis to weight the barriers to entry subcomponents by the degree of statistical variation. While used relatively infrequently in popular economics indexes, this method provides researchers with an index that more objectively weights the importance of variation across variables. This method does not use economic reasoning to guide theory, however, and so I also include a second version of the index, with subcomponents grouped equally and driven by economic theory, to assuage researchers interested in a dataset that ignores any sort of weighted bias.

In similar studies, burdens like barriers to entry decrease economic growth and development because they stifle entrepreneurship and innovation. However, there is reason to believe that some regulations, while burdensome, actually decrease transactions costs making legal systems, and so economic systems, run more smoothly (Arruñada, 2007). In areas with poor economic growth and poor overall institutions, it appears that the former effect is more prominent. It is unclear, however, which effect is stronger for countries with higher levels of economic prosperity and higher quality institutions because no such indexes exist. This paper provides the data necessary to begin to explore the above relationships.

All three chapters attempt to think about, and include, traditionally difficult topics in economics. In the literature, morality and identity are typically treated exogenously in empirical studies,<sup>1</sup> even though it is unclear theoretically whether or not the relationship goes in the opposing direction. That is, does morality and identity cause economic and political outcomes (exogenous) or do economic and political systems alter our moralities and identities (endogenous)?

The first two chapters question this method. Materialism or greed may result from the degree of availability and affordability of goods and services and, minority identity may be a result of insufficient autonomy.

The final chapter reconsiders the purpose of barriers to entry for a nation with high quality institutions. Previous indexes on the same topic aggregate cross-country business regulations, with data points from large cities. Ignored in these analyses is the quality

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<sup>1</sup>If we think of morality and identity as exogenous and thus, unaffected by economic and political settings, then we can empirically show that morality causes economic and political outcomes Guiso et al. (2006a).

of institutions across countries, which may explain away the impacts of barriers to entry on growth and corruption. I address these concerns by providing a dataset at a lower level of analysis and I control for culture and quality of institutions since the legal system and business culture is relatively similar across states.

In sum, this dissertation challenges how morality, identity, and regulation is presented in the economics literature. Difficulties measuring and modeling these relationships should humble, but not limit our curiosities.

# Chapter 1: Are Markets and Money the Roots of all Evil?

## 1.1 Introduction

There is a substantial body of empirical research that supports the idea that economic freedom increases general wellbeing. First, there is a strong positive relationship between economic freedom and economic growth<sup>1</sup> as well as between economic growth and better education outcomes, more diverse and higher quality products, and more job opportunities (Gwartney et al., 1999*a*; Djankov et al., 2002; Arnold et al., 2011; Doucouliagos and Ulubasoglu, 2006; Dasgupta, 1990). Secondly, economic freedom is positively correlated with proxies of well-being like fewer human rights violations (Soysa and Vadlammanati, 2013), higher life expectancies and literacy rates (Esposito and Zaleski, 1999), more income equality (Ashby and Sobel, 2008; Berggren, 1999), even higher levels of happiness and general life satisfaction (Gehring, 2013; Bjørnskov et al., 2010; Knoll et al., 2013). Also, rule of law, a key component of economic freedom, appears to lead to improvements in human capabilities and welfare including infant mortality, life expectancy, malnutrition, environmental factors, and education (Boettke and Subrick, 2003).

What the literature has not considered—and what we hope to help establish in this article—is the effect that markets and money have on moral wellbeing. In this article, we explore the empirical relationship between the extent that a country embraces markets (as proxied by economic freedom) and measures of greed or materialism. We also look at the empirical relationship between money (measured as GDP per capita) and measures of greed

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<sup>1</sup>Gwartney et al. (1999*a*), for instance, show that economic freedom was a significant determinant of economic growth after controlling for confounding factors such as human capital, physical capital, and demographic characteristics. Doucouliagos and Ulubasoglu (2006) confirm the strength of this positive relationship by controlling for specification bias present throughout previous literature.



or materialism.<sup>2</sup> We find that countries with more economic freedom and higher GDP per capita are associated with less greed or materialist values. These findings suggest that neither the spread of markets nor increased prosperity are necessarily associated with greed or materialism.

The article is, thus, structured as follows. In Section 2, we offer a brief overview of the recent relevant literature on the relationship between markets, money, and materialism. We also present and explain our hypotheses: (1) measures of materialism are lower where measures of economic freedom are higher and (2) measures of materialism are lower where measures of GDP per capita are higher. We do not focus on the extensive debate around the *doux-commerce* advanced by Montesquieu and others that commerce is a moralizing agent that gentles manners (Hirschman, 1997). Instead, we focus on more recent discussions in the social sciences concerning the relationship between markets and money, and materialism. In Section 3, we introduce our data, layout our empirical strategy and convey our findings. Finally, Section 4, offers concluding remarks.

## 1.2 The Effect of Markets and Money on Materialism

### 1.2.1 Previous Work

While the question as to whether markets have moral consequences is an ancient one, it is also very much an active field of inquiry. Often, scholars have focused on materialism as a necessary consequence of capitalism and market competition. For instance, results from group experiments suggest that market contexts lead to moral behavioral changes. In an experiment where individuals had to choose money or saving a mouse's life, individuals were more likely to take the money (Falk and Szech, 2013). Falk and Szech (2013, p.708) suggest that, "...markets provide strong framing and focus on materialistic aspects such

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<sup>2</sup>The link between morality and materialism is a complex one that we do not attempt to solve in this article. Instead, we call upon common knowledge of moral systems in general and their commentary on such vices like greed or avarice which emphasize desires to acquire "things" above other things we might consider important. It is these moral characteristics we seek to proxy by using measures of materialism, which we likewise define as 'desires to acquire material possessions for oneself above most other things,' in our exploration of the connection between morals and markets.

as bargaining, negotiation, and competition, and [resultantly] may divert attention from possible adverse consequences and moral implications of trading.”

The converse position suggests that materialism is not a normal good. That is, when incomes improve as a result of economic growth, individuals do not demand more materialism. Freer markets, then, should weaken materialism in individuals rather than encourage it. Indeed, “...people in capitalist countries already possess the material, [therefore] they are less attached to their possessions than people in poor countries” (McCloskey, 2010, p. 26). For McCloskey (2010), it appears that individuals with more opportunities to afford more things will be less likely to define themselves by their possessions. Likewise, Inglehart (1977, p. 991) hypothesizes, “...individuals pursue various goals in hierarchical order...[where] pursuit of symbols of affluence could be regarded as derivative from the search for sustenance.”<sup>3</sup> Other studies implicitly suggest that materialism is costly for relatively richer individuals. Materialist individuals spend more time and resources focusing on the protection and acquisition of material objects thus, they have to spend less time focusing on other life domains (Sirgy et al., 1998; Sirgy, 1998; Ryan and Dziurawiec, 2001). The presence of materialism, then, *ceteris paribus* generates lower levels of life satisfaction. This is confirmed on the macro level: relatively richer countries have higher levels of life satisfaction due to individuals in richer countries preferring to develop rich social relationships more than pursuing intrinsic goals of financial gain (Ahuvia, 2002; Belk, 1985; Kasser and Ryan, 1993, 2001; Sirgy et al., 1998). For these authors, market growth and development makes materialism too costly.

Despite the interest and debates, there are no studies within the economics literature as far as we know that empirically evaluate how economic freedom impacts materialism. The closest set of literature within economics is concerned with comparing cultural traits to economic freedom scores. Berggren and Jordahl (2006), for instance, find that economic

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<sup>3</sup>This is very similar to Maslow (1943), who in the *Theory of Human Motivation* argued that there are several levels of human development and once one level is satiated, needs from other higher categories become desirable. To Inglehart (1977), materialism is a result of some lesser need—economic security, he hypothesizes—not met.

freedom increases trust or social capital because rule of law (and other economic freedom subcomponents) substitutes for higher transactions cost ways of generating trust such as developing a good reputation. Likewise, Williamson and Mathers (2011) as well as Mathers and Williamson (2011) use an overall cultural index that includes the level of trust, respect, self-determination, and obedience from the World Values Survey 1981-2014 LONGITUDINAL AGGREGATE (2014) to determine how economic freedom impacts economic growth. In Williamson and Mathers (2011), economic freedom is more important than values for economic growth in areas where economic freedom is high. Conversely, values are more important for growth than economic freedom in areas where economic freedom is low. Adding to this, Mathers and Williamson (2011) find that “good culture” amplifies capitalist institutions suggesting that “culture” is at least one mechanism that leads to improved economic outcomes.

More closely related to our topic are studies within psychology which explore why materialist sentiments change over time and how materialism impacts subjective well-being. Regarding the former, the founder of the World Values Surveys, Ronald Inglehart first examined the composition of materialism within the context of cultural and political conflict. He claimed that early life determinants—formative experiences—dictate whether an individual will become materialistic or post-materialistic later in life. This, he conjectured, would lead to differences in materialist sentiments which then would result in intergenerational political conflict (Inglehart, 1971). In his seminal paper, Inglehart (1971) measured materialism as the relative preference of policy concerning protection of acquisitions (emphasis on economic security and domestic order) over more expressive priorities (like free speech and political participation). His findings suggest that the post-materialist/materialist designation appears to predict patterns in political orientations, connecting his hypothesis concerning hierarchical value orientations and political preferences across generations. Further empirics testing Inglehart (1971) is mixed. Duch (1993), for instance, found that survey results from former communist regimes now identify with postmaterialism as opposed to the expected materialist sentiments. They show, instead, that economic conditions at the time of the

survey are much more important explanations for variations in postmaterialist measures. Also, Ger and Belk (1996) find that social conditions that are driven by flexible markets invite materialism through “envy” and “prestige of consumption”. Both works suggest that (Inglehart, 1971) was incorrect in saying that formative experiences necessarily dictate materialist outcomes. A more recent paper by Ahuvia and Wong (2002), however, confirms Inglehart—economic deprivation in childhood does, in fact, lead to economic insecurity later in life.

The psychology literature also has extensively explored how materialism impacts well-being (Ahuvia, 2002; Sirgy et al., 1998; Sirgy, 1998; Ryan and Dziurawiec, 2001; Belk, 1984; Dawson and Bamossy, 1991; Keng et al., 2000; La Barbera and Gürhan, 1997). These studies show that materialism, incontrovertibly, leads to lower life satisfaction. A materialist mindset imposes unrealistically high standards of living that are never fully satiated (Sirgy, 1998; Sirgy et al., 2013). Spending resources trying to attain these standards and never meeting them leads individuals to feel as if they are treated inequitably and unjustly. It also leads to feelings of envy and anger which, in turn, leads to further dissatisfaction (Dawson and Bamossy, 1991; Sirgy et al., 1998; Belk, 1985). The causes of the consistent negative relationship between materialistic inclinations and well-being in these studies are largely attributed to psychological reasons: either personality and factors such as self-esteem, optimism or alienation (among others) (Belk, 1985), or situational factors like satisfaction with family, job, neighborhood, etc. (Sirgy et al., 1998; Sirgy, 1998), generate and reinforce the negative relationship observed (Sirgy et al., 2013).

### **1.2.2 Hypothesis**

In this article, we propose that institutional factors ultimately lead individuals to become more materialistic. In this way, we follow Berggren and Jordahl (2006) and Ahuvia and Wong (2002) which theorized that improved economic conditions leads to changes inducing individuals to become more trusting or more concerned with their own happiness. Specifically, we hypothesize that:

- *Hypothesis 1: Measures of materialism are lower where measures of economic freedom are higher.*
- *Hypothesis 2: Measures of materialism are lower where measures of GDP per capita are higher.*

We believe there are at least two reasons why markets and money lead to less materialism:

***The market makes us richer and being richer allows us to focus on alternative, non-material things***

The neoclassical version of the law of diminishing marginal utility states the utility an individual receives from consuming one unit of a good will necessarily be higher than the utility received from consuming a second or a third (or subsequent) unit of that good all else held equal. To the extent that (more and less wealthy) individuals desire social, moral and spiritual goods in addition to material goods, even if they have a preference for material goods, we would expect them to shift their focus away from material goods and towards other types of goods the more material goods that they acquire and consume. As such, the portfolio of goods desired and consumed by individuals who are more wealthy are likely to be relatively more diversified than the portfolio of goods desired and consumed by less wealthy individuals, all else equal, because more wealthy individuals are more likely to be able to satisfy their material desires without exhausting their resources than less wealthy individuals. This explains why we might find a greater emphasis on (a desire for) material goods relative to other goods amongst less wealthy populations.

It is helpful, also, to consider the law of diminishing marginal utility ordinally. That is, individuals rank acquisitions based upon relative baselines not on the absolute amount of utility that an individual assigns to changes in acquisitions. As such, an individual assigns

items in conjunction with their relative importance across various uses. The first bottle of water you purchase might be first assigned to quenching your thirst, the second bottle of water might be given to your pet, and the third you might use to make a cup of soup. If it is very hot outside, you might decide to reallocate the bottle of water originally meant for soup to quench your own (and your dog's) thirst—a hotter afternoon means that you value the water's uses differently than when it was cooler in the morning. Thinking about the law of diminishing marginal utility in this way means that individuals are principally concerned with making choices in particular situations while faced with specific constraints. They are not primarily concerned with attaining a particular level of utility.<sup>4</sup>

This has at least two implications that are relevant here. First, individuals in less economically free and so less wealthy countries might come to view the importance of attaining more wealth differently than individuals in more economically free and so richer countries. The difference in the material quality of life, for instance, between the wealthiest and least wealthy individuals is arguably more pronounced the less economically free the country. Indeed, individuals in less economically free and so poorer countries may simply view becoming wealthier and the attainment of more material goods as being more important than do individuals in more economically free and so richer countries. To continue the example above, living in a less economically free and so poorer country may be akin to having three bottles of water on a very hot day (i.e. a focus on your own material wellbeing becomes more likely). Second, because countries with more economic freedom are also countries that do a better job securing property rights and limiting government predation, individuals in more economically free countries will be able to make better choices because they can allocate less time, resources and attention to acquiring things and securing the things they have. The emphasis moves away from acquiring and protecting things to instead wondering how to allocate and use things away from materialist concerns (as defined and measured here).

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<sup>4</sup>When choices are what really matter, then simply having more or less available stuff does not carry the same weight. Instead, the conditions which influence the types and amount of choices individuals make may determine whether or not an individual is materialistic.

*Economic Freedom may lead to faith in the rules of the system and so there's not a need to be as material-focused*

The rules of a system shape an individual's set of possible opportunities. We believe it also shapes an individual's opportunity set of possible moral responses. Recall that countries with greater economic freedom have lower levels of government predation and stronger contract enforcement; they have institutions that decrease the costs associated with transacting. Courts in these countries tend to redress breaches. Because people are confident that their goods will not be confiscated or stolen, individuals are less worried about losing those things they have earned. As a result, individuals spend less time focusing upon protecting their things themselves and ensuring that they have the resources to protect their material possessions. Within less economically free systems, on the other hand, individuals are not only wary of others reneging on mutually agreed upon contracts, they must also be concerned with the possibility of violent theft. Moreover, individuals cannot place faith in legal systems to rectify damages or return stolen goods. Indeed, less economically free countries are prone to corruption by officials or simply have inept enforcement institutions. Additionally, individuals residing in less economically free countries are aware that public authorities can and sometimes do, confiscate assets or income without warning or compensation. Given these conditions, it does not seem unreasonable that individuals covet their things and desire more; they are afraid they will lose them. Consequently, their priorities towards possessions are more highly emphasized. Being materialistic is a rational response to the environment.

## **1.3 Data and Empirics: Markets, Money, and Materialism**

### **1.3.1 Data**

In the models introduced in the next subsection, we compile nine variables on economic freedom, GDP per capita, and materialism from three datasets. Our economic freedom

variables use the final summary measure, Area 2: Legal Structure and Security of Property Rights, Area 4: Freedom to Trade Internationally, and Area 5: Regulation of Credit, Labor, and Business created in the Economic Freedom of the World Reports (EFW) for the years 1980-2012 (Gwartney et al., 2014).<sup>5</sup> The first variable—final summary measure—is a simple average of five major areas of economic freedom: (1) size of government; (2) legal system and property rights; (3) sound money; (4) freedom to trade internationally; (5) regulation. These major areas are then averaged to create a final summary measure for each country. The remaining economic freedom variables—Area 2, Area 4, and Area 5—are summary measures for each area included in the final measure. We include these because they have relevant theoretical ties to materialism and also because these measures are lower tiers of aggregation—suggesting that these numbers are more accurate indicators of those topics they are describing. For the years between 1980 and 2000, data is reported in five-year increments; for years after 2000, data is available for each year up to 2012. Additionally, we include GDP per capita for our measure of “money” which comes World Bank Development Indicators (World Bank, 2017) for years consistent with our materialism measures—1980-2014. We also include this measure in all of our regressions as an additional level of robustness: we want to make sure that the impacts of economic freedom on materialism are not explained away by the impacts that a country’s wealth level have on materialism (since the two variables are highly correlated).

Finally, we include four measures of materialism which all come from the World Values Surveys six wave aggregated file 1981-2014 issued by the World Values Surveys Organization (World Values Survey 1981-2014 LONGITUDINAL AGGREGATE, 2014). This dataset contains the answers to hundreds of value-related and life-preference questions for over 256,000 interviews across 87 countries. In this article, we choose one survey question and two index variables pertinent to materialism or greed (as we have defined it in the introduction). These questions, shown in Tables 1 and 2, reflect what we believe are ubiquitous and uncontroversial proxies for materialist or non-materialist sentiments.

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<sup>5</sup>For those unfamiliar with the EFW index, Hall and Lawson (2014a) provide an extensive overview of more than 400 articles that use this index.



Also, included in our regressions are 9 covariates from the World Values Surveys. These covariates are personal characteristics of the individual survey participants that have answered the materialism-related questions we use in our empirics. These are factors that we believe may impact, in addition to our EFW variable, the observed choice outcome. These include: gender, age, education, income, marital status, two categories of employment (full-time worker and unemployed), and two categories of workplace type (public or private). We only use years that are *exactly comparable*, even though we had data for approximately 25 closely comparable years. For example, we may have available data from 1993 in the WVS but data from 1990 or 1995 from EFW. Since we had no reason to justify rounding up or down to make these years comparable, we choose to compare only those years where there is overlap: 1990, 1995, and 2000-2014. Finally, we converted questions with discrete, categorical answers—such as Y002 and Employ—into dummy variables for easier interpretation.

Table 1.1: Materialism-Related Question from the World Values Surveys: Responses less than 0 were recoded as missing. E014 was recoded as a dummy variable, where 1=“good thing” and 0= “bad thing”.

WVS Code	WVS Wave	Question	Possible Answers	Answer <i>supportive</i> of our hypotheses
E014	WVS Wave 1 (1981-1984)	I'm going to read out a list of various changes in our way of life that might take place in the near future. Please tell me for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind? Less emphasis on money and material possessions	-1: Missing; Unknown; -4: Not asked in a survey; -3: Not applicable; -2: No answer; -1: Don't know; 1: Good thing; 2: Don't mind; 3: Bad thing	1: Good thing;
	WVS Wave 2 (1990-1994)			
	WVS Wave 3 (1995-1998)			
	WVS Wave 4 (1999-2004)			

Table 1.2: Post Materialism Indexes from the World Values Surveys: Responses less than 0 were recoded as missing. Y002 was recoded as a dummy variable, where 1 reflects postmaterialist sentiments. We ignore mixed sentiments because it is unclear whether we would anticipate a positive or negative correlation. We also ignore Materialist answers as this is simply the opposite of postmaterialist.

WVS Code	WVS Wave	Question	Possible Survey Answers	Coded Answers within LONGITUDINAL dataset	Answer(s) supportive of our hypotheses
Y001	WVS Wave 1 (1981-1984)	Inglehart's Post Materialist index (12-item) This corresponds to the following six questions: (1) (a) People sometimes talk about what the aims of this country should be for the next ten years. On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, consider the most important? (Code one answer only under "first choice"); (b) And which would be the next most important? (Code one answer only under "second choice")	(1) 1: A high level of economic growth 2: Making sure this country has strong defense forces 3: Seeing that people have more say about how things are done at their jobs and in their communities 4: Trying to make our cities and countryside more beautiful	0: Materialist 1:1 2:2 3:3 4:4 5: Postmaterialist	3:3 4:4 5: Postmaterialist
	WVS Wave 2 (1990-1994)	(2) (a) If you had to choose, which one of the things on this card would you say is most important? (Code one answer only under "first choice"); (b) And which would be the next most important? (Code one answer only under "second choice")	(2) 1: Maintaining order in the nation 2: Giving people more say in important government decisions 3: Fighting rising prices 4: Protecting freedom of speech	5: Postmaterialist -5: Missing; Unknown -4: Not asked in survey -3: Not applicable -2: No answer -1: Don't know	
	WVS Wave 3 (1995-1998)	(3) (a) Here is another list. In your opinion, which one of these is most important? (Code one answer only under "first choice"); (b) And what would be the next most important? (Code one answer only under "second choice")	(3) 1: A stable economy 2: Progress toward a less impersonal and more humane society 3: Progress toward a society in which 4: Ideas count more than money The fight against crime		
	WVS Wave 4 (1999-2004)				
	WVS Wave 5 (2005-2008)				
	WVS Wave 6 (2010-2014)				
Y002	WVS Wave 2 (1990-1994)	Inglehart's Post Materialist index (4-item): This corresponds to the following two questions: (1) If you had to choose, which one of the things on this card would you say is most important? (Code one answer only under "first choice"); (2) And which would be the next most important? (Code one answer only under "second choice")	1: Maintaining order in the nation. 2: Giving the people more say in important political decisions. 3: Fighting rising prices. 4: Protecting freedom of speech.	1: Materialist 2: Mixed 3: Postmaterialist -5: Missing; Unknown -4: Not asked in survey -3: Not applicable -2: No answer -1: Don't know	3: Postmaterialist
	WVS Wave 3 (1995-1998)				
	WVS Wave 4 (1999-2004)				
	WVS Wave 5 (2005-2008)				
	WVS Wave 6 (2010-2014)				

### 1.3.2 Empirical Strategy

We explore the relation between markets and materialist sentiments by developing and then testing the following two hypotheses:

- *Hypothesis 1: Measures of materialism are lower where measures of economic freedom are higher.*
- *Hypothesis 2: Measures of materialism are lower where measures of GDP per capita are higher.*

$$WVSQuestion_{it} = \beta_0 + \beta_1 EFW_{it} + \beta_2 GDPpc_{it} + \beta_3 X'_i t + \epsilon_i \quad (1.1)$$

where, equation (1.1) is an ordered logistic regression where  $i$  subscripts country;  $t$  subscripts year;  $WVSQuestion$  represents our materialism-related value obtained in question *E014*, *Y001*, and *POST* above;  $EFW$  are the various the summary measures pulled from the Economic Freedom of the World Report;  $GDPpc$  is GDP per capita;  $X$  is the vector of covariates including gender, age, income, marital status, occupation status, and occupation type and  $\epsilon$  is the standard error.

The EFW reports offer many possible options with which to compare measures of economic freedom with materialism. Several of the five major areas, for instance, might impact our respective materialism variables in any number of ways. Area 2: Legal Structure and Security of Property Rights should have a direct positive correlation with our materialism variables since secure property rights might allow individuals to develop faith in the economic system allowing them to be less self-focused. So, individuals in countries with better property rights should answer away from the lower, materialist survey answers—Bad thing. Likewise, Areas 4 and 5: Freedom to Trade Internationally and Regulation of Credit, Labor, and Business also should positively correlate with our questions since these areas tend to make areas wealthier—allowing individuals to diversify their desires over a variety of goods and services—some of which, may not be material-oriented. This said, it is also important that we use a measure representative of the extent of the market—or the degree to which participating actors have the ability to create or attain products with little to no outside intervention. Using a summary measure here allows us to conservatively proxy the market environment. Indeed, empirical evidence suggests already that the final summary measures proxying the extent of markets are connected with the ability to provide certain quantities and qualities of goods: markets with fewer regulatory burdens provide greater quantities and qualities of goods and services while markets with more interventions have fewer of both (Djankov et al., 2002). We believe that this variation in the distribution of choice across goods and services reflects both ways that markets shape materialist tendencies: (1) an

explicit impact that more choice has on an individual’s opportunity set and (2) an implicit impact that market environments offering more choice impart on individual action.

### **1.3.3 Empirical Results Exploring the Relationships Between Materialism, Markets, and Money**

To establish that a relationship exists between economic freedom and materialism, we estimate the coefficients for Equation (1) starting with our summary measure. Referring to the results from Table 1.3, all of our coefficients, both with and without added controls, are statistically significant at the 1% level and all of our signs are in the direction we anticipate. That is, a positive result from E014—that it is a good thing to place less emphasis on money and possessions in the future—suggests that individuals in more economically free countries think placing less emphasis on money and material possessions is a good thing. For our regression with controls, the predicted probabilities that individuals will choose “good thing” increases by 12.76% when we constrain our regression to places with relatively higher economic freedom scores (7.1 or higher).

The results using the postmaterialism indexes reflect the same results for our questions: countries that are more economically free have more individuals that answered consistent with postmaterialist sentiments as opposed to materialist ones. The positive EFW coefficient using Y001 as the dependent variable suggests that the odds are 1.16 times higher that individuals in places with higher economic freedom answer in postmaterialist ways over materialist ways (for regression 4). Our Y002 dummy variable reflects nearly identical results: the odds that individuals provide evidence of postmaterialist sentiments and are living in places with higher levels of economic freedom increases by 1.17.

While it is clear that the extent to which counties embrace markets, broadly, appear to share a strong positive relationship to non-materialist sentiments, some subcomponents of economic freedom should as well. If, as we hypothesize, materialism is a rational response to the institutional context, then we should observe positive coefficients for the strength of property rights, freedom to trade, and the degree of regulation since all of these areas

Table 1.3: Ordered Logistic Regression Analysis of World Values Survey Questions on Economic Freedom Summary Measure: This table illustrates the ordered logistic regression results for materialism or greed-related questions and economic freedom (summary measure) (see equation 1.1). The results show the estimated coefficients for the EFW variable and their respective standard errors. Stars are representative of statistical significance: \*\*\*corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

Dependent Variables: Materialism Measures	Independent Variable: EFW Summary Measure					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
E014: Less emphasis on money and material possessions	.119*** (.010)	.132*** (.010)				
Y001: Inglehart's Post Materialist index (12-item)			.101*** (.005)	.153*** (.013)		
POST: Dummy using Inglehart's Post Materialist index (4-item)					.027*** (.0010)	.159*** (.022)
Controls	No	Yes	No	Yes	No	Yes

of economic freedom alter how individuals view material things relative to alternatives. Referring to results from tables 1.4, 1.5, and 1.6, this is almost exclusively the case: every coefficient is positive and significant at the 1% level but for one—POST is insignificant and positive for Area 2 once controls are added (table 1.4).

In addition to the Economic Freedom of the World variables, we also include GDP per capita in all of our regressions (with and without controls) to represent our money measure and also to exploit country-level variation. In all but one regression, *GDPpc* closely shadows the economic freedom variables in sign and significance (see table below). This is strong evidence to confirm our second hypothesis—an increase in GDP per capita should also result in less materialist sentiments.

Our findings, however, are not causal and so alternative reasons we observe this relation are possible. For example, another explanation consistent with this result is that more materialistic individuals tend to create and/or maintain governments that support

Table 1.4: Ordered Logistic Regression Analysis of World Values Survey Questions on Economic Freedom Area 2: This table illustrates the ordered logistic regression results for materialism or greed-related questions and economic freedom (Area 2: Legal Structure and Security of Property Rights) (see equation 1.1). The results show the estimated coefficients for the EFW variable and their respective standard errors. Stars are representative of statistical significance: \*\*\*corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

Dependent Variables: Materialism Measures	Independent Variable: Area 2-Legal Structure and Security of Property Rights					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
E014: Less emphasis on money and material possessions	.204*** (.007)	.221*** (.007)				
Y001: Inglehart's Post Materialist index (12-item)			.084*** (.003)	.067*** (.006)		
POST: Dummy using Inglehart's Post Materialist index (4-item)					.114*** (.006)	.012 (.010)
Controls	No	Yes	No	Yes	No	Yes

more interventionist governments and less economically free institutions or reforms. Less economically free countries could, thus, be subject to a sort of materialism trap where more materialist individuals support governments that embed institutions (both formal and informal) that generate materialism.

Alternatively, our results may reflect reverse causality where lower levels of materialism might be leading to lower demands for economic interventions or greater demands for economic freedom. If countries that facilitated money making and the attainment of material possessions were making people materialistic, taking those available options away would not seem to induce less materialism. To this point, if instead individuals are materialistic because they do not have their lower needs met, states that provide greater opportunities for money making and the attainment of material possessions by means of deregulation seem more likely to reduce materialism.<sup>6</sup> Thus, increases in money or wealth, should also

<sup>6</sup>If this is not convincing enough, the more straightforward rebuttal would be to discern whether or not materialistic individuals move to countries with less economic freedom due to potentially higher rent-seeking rewards. Gehring (2013) makes a similar argument in addressing his reverse causality concern: do unhappy

Table 1.5: Ordered Logistic Regression Analysis of World Values Survey Questions on Economic Freedom Area 4: This table illustrates the ordered logistic regression results for materialism or greed-related questions and economic freedom (Area 4: Freedom to Trade Internationally) (see equation 1.1). The results show the estimated coefficients for the EFW variable and their respective standard errors. Stars are representative of statistical significance: \*\*\*corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

Dependent Variables: Materialism Measures	Independent Variable: Area 4-Freedom to Trade Internationally					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
E014: Less emphasis on money and material possessions	.021*** (.005)	.032*** (.006)				
Y001: Inglehart's Post Materialist index (12-item)			.074*** (.003)	.117*** (.008)		
POST: Dummy using Inglehart's Post Materialist index (4-item)					.153*** (.006)	.211*** (.015)
Controls	No	Yes	No	Yes	No	Yes

decrease materialist sentiments.

## 1.4 Implications and Conclusion

The results from our empirical tests suggest that markets and money do not generate materialism or greed. We provide two reasons why this may be the case: (1) the market makes us richer and being richer allows us to focus on alternative, non-material things; and, (2) Economic Freedom may lead to faith in the rules of the system and so there's not a need to be as material-focused.

Much empirical work has emphasized the importance of economic freedom for growth, individuals move to happier countries? He points out that migration on average is too small. Thus, increases in money or wealth, should also be consistent with his empirical results. Not only is migration in these countries a small proportion of their total populations, neither rich nor poor individuals should be motivated to move there. Indeed, poor individuals are not likely to be induced by rent-seeking as they do not have social prestige necessary to attain possible rents. Likewise, it seems reasonable that rich individuals are less likely to move to countries with less economic freedom as the risks of having their assets confiscated or exposing themselves to monetary volatility are unfavorably high (Campbell and Snyder, 2012; Pitlik, 2012). For these reasons, then, reverse causality appears a nonissue.

Table 1.6: Ordered Logistic Regression Analysis of World Values Survey Questions on Economic Freedom Area 5: This table illustrates the ordered logistic regression results for materialism or greed-related questions and economic freedom (Area 5: Regulation of Credit, Labor, and Business) (see equation 1.1). The results show the estimated coefficients for the EFW variable and their respective standard errors. Stars are representative of statistical significance: \*\*\*corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

Dependent Variables: Materialism Measures	Independent Variable: Area 5-Regulation of Credit, Labor, and Business					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
E014: Less emphasis on money and material possessions	.113*** (.008)	.113*** (.008)				
Y001: Inglehart's Post Materialist index (12-item)			.072*** (.004)	.043*** (.008)		
POST: Dummy using Inglehart's Post Materialist index (4-item)					.140*** (.008)	.088*** (.014)
Controls	No	Yes	No	Yes	No	Yes

fulfillment of physical necessities, and life satisfaction or happiness. Indeed, economic freedom and growth are consistently correlated (Gwartney et al., 1999b; Vanssay and Spindler, 1994; Scully, 1991) and may actually cause economic development (Dawson, 2003; Faria and Montesinos, 2009; Vega-Gordillo and Alvarez-Arce, 2003). Very little empirical work has focused on how economic freedom impacts moral well-being generally and, specifically, how it affects materialism. Our article fills this gap. More specifically, we attempt to capture the relationship between materialist or greed oriented values and markets and money using an order logistic regression model. We show that by utilizing measures of the extent of the market (proxied by economic freedom), money (measured by GDP per capita) and various materialism-related questions over a 24 year period, increases in economic freedom and in GDP per capita are associated with less greed or materialist values. The results of these regressions suggest that improvements in economic freedom are associated with improvements in values, not the degradation of them.



Table 1.7: Ordered Logistic Regression Analysis of World Values Survey Questions on Economic Freedom and GDPpc: This table shows the signs and significance of the coefficients from our ordered logistic regression results for materialism or greed-related questions, economic freedom, and GDP per capita (see equation 1.1). Stars are representative of statistical significance: \*\*\*corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

	EFW Total/GDPpc		Area 2: Legal Structure and Security of Property Rights/GDPpc		Area 4: Freedom to Trade Internationally/GDPpc		Area 5: Regulation of Credit, Labor, and Business/GDPpc	
	No Controls	Controls	No Controls	Controls	No Controls	Controls	No Controls	Controls
EO14: Less emphasis on money and material possessions	+***/+***	+***/+***	+***/+*	+***/-	+***/+***	+***/+**	+***/+***	+***/+***
Y001: Inglehart's Post Materialist index (12-item)	+***/+***	+***/+***	+***/+***	+***/+***	+***/+***	+***/+***	+***/+***	+***/+***
POST: Dummy using Inglehart's Post Materialist index (4-item)	+***/+***	+***/+***	+***/+***	+/+***	+***/+***	+***/+***	+***/+***	+***/+***

Our empirical strategy is not without limitations. We cannot, for instance, claim that economic freedom causes materialism nor can we claim that our survey data is consistent with true preferences. Indeed, individuals may, in fact, be adopting new positions or individuals could be facilitating the development of poor institutions in order to maintain their materialist sentiments. Given that more materialism could be purchased with greater wealth, however, it seems irrational that materialist individuals would want institutions that stifle wealth generation. To falsify this, we include GDP per capita in our model. In so doing we answer the following question: Are individuals in countries with greater GDP per capita's more materialist? Our finding—GDP per capita increases as materialist sentiments decrease—suggests this latter position unlikely.

Despite this, we think that our results justify further empirical and investigative work. For example, an interesting extension of this work would be to evaluate within country analyses to exploit variation across different types of individuals. Unfortunately for us, the two datasets were not always consistent in measuring across similar regional areas. The Economic Freedom of the World Index does not measure every country regionally and for the ones that it does, the geographic regions are not always consistent with the World Values Surveys. Likewise, GDP data for some countries and regions is sparse. To supplement

these issues, an ethnographic study may help provide additional support and robustness regarding our survey responses. A final avenue for future research would be to further investigate what we referred to as the materialism trap. Much has been said concerning poverty traps and violence traps as of late, could there also be a materialism trap? While our evidence certainly is supportive of this position, more could be done to develop and test this theory more explicitly.

A final topic of some importance concerns possible mechanisms we believe our theory operates out of—that is, do we believe our evidence is indicative of economic freedom explicitly causing individuals to be less materialistic or does our evidence support economic freedom via its effect on growth? Our empirics cannot confirm or reject either unequivocally. However, our two reasons for our empirical results suggest the two mechanisms are not mutually exclusive.<sup>7</sup> Our first reason—there exists diminishing marginal utility to material things and countries with economic freedom provide opportunities to choose and receive lots of things—suggest that our mechanism could function through the impact of economic freedom on growth. In particular, economic freedom—strong, legitimate formal institutions that facilitate rule of law and protection of private property—lays the foundation upon which markets can grow and flourish. This growth of markets provides a greater variety of goods, both in quality and quantity, as well as more job opportunities. It also lays the foundation upon which individuals can make higher quality choices—allocating resources away from the search for protection from predation towards entrepreneurial ways to innovate and use products and services in new ways.

The second reason, on the other hand, suggests that economic freedom also directly impacts our moral or materialist inclinations: the economic environments we live in dictate our possible moral choice set. As Boettke (1995, p.11) aptly acknowledges, “The rules

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<sup>7</sup>Implied from the two preceding reasons, economic freedom, through its effect on economic growth, may result in a cultural shift away from a more collectivist mindset to a more individualist one (Ahuvia and Wong, 2002). It is this cultural shift that might result in the presence (or absence) of materialism. Wealth diminishes the dependence upon group and kin-based organizations as a means of providing goods (necessities) and services (protection from predation). So, as countries grow (economic freedom improves) culture shifts from a commune-based system to one which emphasizes individualism and innovation. As individualist values emphasize the desire to maximize happiness and materialist values consistently makes us unhappy, materialism is costly for individualists relative to communal-types.

which enhance social cooperation and as such allow the simultaneous achievement of liberty, prosperity, and peace are moral rules. Moral rules which promise justice, but deliver reduced liberty, lower levels of prosperity, and the breakdown of peaceful harmony do not deserve to be described by terms such as ‘just and ‘moral’.”

Since relatively poor governing and arbitrating institutions generally exist in environments with less economic freedom, individuals living in these countries are prone to greater predation by governments and by others. As such, these individuals are forced to be more material-focused to preserve their livelihoods. Materialism may exist as a survival-type behavior for these individuals. Conversely, residents of relatively more economically free countries need not be as concerned with protection of their goods; the formal institutions ensure this. Consequently, these individuals can allocate their time and resources doing other non-material things. In short, we identify both the inferences that can be drawn—and those that must be drawn—from our research.

## Chapter 2: Identity and Integration: Cultural Persistence and the Vote for the Eurozone in France

### 2.1 Introduction

Economists are fortunate in that the market prices which coordinate economic transactions are fairly well behaved and well understood. Those who study how people coordinate on the institutions which underlie these markets, however, are less fortunate as there are no associated prices to theorize about or measure directly. Nonetheless, the question of how support for market-enhancing institutions – such as unified regulatory systems or free trade zones – is generated, is extremely important. In order for factors to be allocated to their highest valued use, people need to be willing to trade across across ‘traditional’ institutional boundaries delineated by categories like ethnicity, religion, tribe, or language. Much of the story of modern economic growth is about the substitution of economic and political institutions which bypass these local institutions in favor of more uniform rules which allow trade across larger and more diverse populations<sup>1</sup>.

One prominent explanation of how inclusive, market enhancing, institutions are created is that states themselves generate support for their legitimacy by molding the preferences of those they rule. This is a major theme in (Weber, 1976), who argued that by the beginning of World War I in France, peasants who formerly associated themselves with regional identities were thinking of themselves as Frenchmen.<sup>2</sup> This argument is also closely related to the literature on whether formal institutions crowd-out or crowd-in informal norms (Bowles and Polania-Reyes, 2012; Becker et al., 2014; Lowes et al., 2015; Tabellini,

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<sup>1</sup>Two classic treatments of this subject are (Heckscher, 1955) for Europe as a whole and (Usher, 1913) for France. A more recent discussion is provided by (Epstein, 2000), (Weiner, 2013), or (Ogilvie and Carus, 2014). The creation of ‘open access’, or ‘inclusive’ institutions, is also a focus of several literatures in economics (see, e.g., (North et al., 2009) and (Acemoglu and Robinson, 2012))

<sup>2</sup>See also (Deutsch, 1964) and (Johnson, 2015).

2010). Our paper makes a contribution to this literature by showing how supranational institutions – in this case the European Union – may lower the costs faced by regional groups in coordinating on support for institutions which support their local identity. As such, supranational organizations may undermine attempts by nation states to overcome particularistic interests and reduce support for broad-based market enhancing institutions.

We do two things in this paper. First, we show that individuals in France who self-identified with local as opposed to national institutions in the 2008 European Values Surveys (EVS) were also more likely to vote in favor of accession into the Eurozone in 1992. We argue the reason for this was due to the political dynamics between regional interests and the state. Regional identity can be viewed as a *social tool* which may be used to coordinate minority interests against national interests in order to resolve social dilemmas (preserve local culture, for instance) and affect public goods distribution (Furtan et al., 2008; Alesina et al., 2003*a*, 1999*a*).

One potential concern is that we observe the identity of individuals in the EVS data sixteen years after France voted to join the EU. In order to better interpret these results, therefore, the second thing we do in the paper is show that the same regions that identified with local identity in 2008 and voted ‘yes’ in 1992 also identified with local institutions in 1789 and were less likely to speak French as their first language in 1864. This persistence in local identity suggests that Weber’s claim that peasants were Frenchmen by the beginning of the twentieth century is wrong. It also undermines the Functionalist argument for the European Union which claims that one of the reasons for the EU to exist is because it serves to gradually integrate the preferences of the populations who join (Spolaore, 2013). Functionalists argue that the formal institutions of the EU crowd-in informal norms (identity) that support broad-based market enhancing institutions. Our results, by contrast, strongly imply that individuals voted to support the EU in 1992, not because they believed in European-level, market enhancing, institutions, but rather because they were seeking support for local autonomy and local institutions. We provide narrative evidence for this in Section 2.2.

This paper also contributes to work emphasizing culture’s persistent impact on political and economic outcomes (Voigtländer and Voth, 2012; Nunn, 2012). Avner Greif’s seminal works illustrate how culture shapes institutions and politics, which, in turn, alters economic outcomes (Greif, 1994; Greif and Tabellini, 2009; Greif and Iyigun, 2013). Likewise, Guiso et al. (2006*b*), Akerlof and Kranton (2000), as well as Benabou and Tirole (2011) focus on how culture influences preferences and how preferences determine economic performance. Consistent with these literatures, we show that persistent cultural identity strongly predicts an important political outcome – the 1992 vote for accession into the EU. Furthermore, our finding that regional minorities were the core supporters of the early EU also suggests that they see the EU’s institutions as means to support their local interests. This is consistent with the large literature on how heterogeneity of culture can undercut economic development and increases the costs associated with the provision of public goods (Alesina et al., 1999*b*, 2012; Alesina and Ferrara, 2004; Giuliano et al., 2013).

In the sections that follow we first survey the literature on regionalist movements and their effects on political and economic outcomes. We then provide a simple explanation as to why France’s regions may have decided to vote for accession into the Eurozone as opposed to the alternative options explained in the literature—assimilation, secession, or civil war. Section 2.3 presents a description of the 1992 Maastricht Treaty Referendum and its relevance to French regions. In Section 2.4, we describe the various datasets used, our empirical strategy, and our results followed by Section 2.5 which explores two case studies on the development of regionalist sentiments in the Occitan and Brittany in reference to our results. Section 2.6 concludes.

## 2.2 Regional Autonomy and Supranational Organizations

Current literature suggests that regionalist movements have three options to further their interests against the majority: secession (when one piece of a country breaks off to form a new one), civil war (when there is violent conflict between the minority and majority groups

of a country), or assimilation (when the majority concedes to minority interests and the minority is assuaged). We suggest there is a fourth option: accession into a supranational organization.

There are several approaches taken in the literature to explain why regional movements result in secession, civil war, or assimilation. The optimal size of nations literature models the size of nations as some function of the relative trade offs between cultural heterogeneity and economies of scale in public goods provisions (Alesina and Spolaore, 1997; Wittman, 1991; Spolaore, 2012). Cultural heterogeneity increases coordination costs which pulls nation size downward. Conversely, the larger the size of a nation, the easier it is to utilize economies of scale for the production of public goods. Thus, nation size pushes upward to accomodate the provision of non-rivalrous goods. The optimal size of nation, then, is the equilibrium between heterogeneity and public goods provisions which maximizes the utility of all parties.

Also relevant to the persistence of regional identities is the literature political effectiveness. (Stigler, 1972) identifies several factors that influence the connection between political party size and political effectiveness. If a minority group is homogenous on at least one issue, they can attain their interests through vote trading. When the minority grows larger relative to the majority, however, they face a tradeoff – minorities have to convince fewer people to vote in a particular way, but they impose greater enforcement costs on the majority issues they oppose. If this occurs, minorities either secede or they go to war. Thus, under this approach, heterogeneity is a bad thing—increasing heterogeneity inevitably leads to breakup or violence. However, as Stigler (1972) suggests, minorities can use their homogenous interests as a focal point or a *social tool* to mitigate coordination costs to achieving their aims.

The empirical literature on the origins and effects of regionalism largely supports these literatures. (Sorens, 2005) and (Goyal and Staal, 2004) find that in democracies, language, history, relative affluence, geographical non-contiguity, population, and multiparty political systems increase the likelihood that a minority group will secede. Similarly, (Desmet et al.,

2009) finds that increasing (or decreasing) cultural heterogeneity predicts the breakup (or unification) of nations. In all of these approaches, voters choose the course of action consistent rational choice: they choose secession if they are relatively richer than the majority, have larger populations, and are not geographically contiguous; they choose to assimilate if their needs are heard and met; and they choose war if minority groups find their positions intolerably different from those of the majority (Sorens, 2004; Wittman, 1991).

While France’s peripheries have showed interest in some of these options in the past,<sup>3</sup> they have never successfully seceded, waged war, or as we illustrate in the next section, completely assimilated. This is consistent with predictions from the empirical literature: France’s peripheries have lower relative incomes, smaller populations and, while political borders were largely drawn consistent with cultural lines, the peripheries are non-contiguous. All of these factors suggest that secession was a less likely option since it would have been too costly to provide public goods (small population, low incomes). Likewise, civil war was not realistic as each region is small compared with the majority and unification of the regions would be too costly—cultural differences across the various peripheries would make coordination prohibitive. The remaining option—assimilation—is also not realized. The strength and persistence of regionalist identity suggests the needs of these minorities have not been met.

Traditional French republican models suggest that regional identities may exist to serve an instrumental purpose. By emphasizing a unified identity, the nation state finds it in their interest to quell potentially rebellious areas (Cole and Loughlin, 2003).<sup>4</sup> Thus, the extent to which regional identities remain homogenous and vocal, they can build their own capacities within the confines of the larger state (Öner, 2004; Guyomarch et al., 1998).

For the French peripheries, options to secede, fight, or assimilate into the majority French culture are costly. We believe an alternative option—*accession* into a supranational organization—provided opportunities for these regions to acquire more autonomy than the

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<sup>3</sup>In the early 1900s, *Union régionaliste bretonne* in Brittany sought complete independence from France.

<sup>4</sup>In addition to public good provisions, France has granted regions limited political autonomy as a defensive measure (Anderson and Goodman, 1995)



state was willing to part with.

## 2.3 The 1992 Vote for Accession to the European Union

France's attitude towards the EU in the years before 1992 was complex. After WWII, France was very public about its support for a European supranational authority. This support was conditional, however: France was not interested in competing for power within its own borders, but instead, hoped to influence its largest economic competitor, Germany. Becoming a part of the EU, then, was a way for France to extend their influence over European affairs as well as to take advantage of resources and technologies present across Europe. In this sense, the French government believed the EU would play a *functional* role as an instrument to be used to build their own capacity.

There were many obstacles to creating the EU that France wanted. For one, central authorities in France fought against relinquishing their control over development of the peripheries. Direction à l'aménagement du territoire et à l'action régionale (DATAR)—France's central authority on regional development—felt threatened by possible competition and decentralization that European regional policy might induce (Cole and Pasquier, 2012). Additionally, President François Mitterand's attempted to undermine the European project by trying to build 'socialism in a single country' through nationalization of industry and increased public spending. It was only after these reforms led to unanticipated monetary fluctuations, mass capital flight, and decreased credibility in the socialist agenda that Mitterand was forced to support economic and monetary integration into the European Monetary System (Gueldry, 2001).

The 1992 Maastricht Treaty was meant to secure the transition of France from a sovereign nation to a member of a larger European community. It challenged French sovereignty, border control, and citizenship (Gueldry, 2001). The French constitution's emphasis upon *national sovereignty* invited 60 members of the *Sénat* to call upon the *Conseil Constitutionnel* to weigh in on the possible violation posed by the Treaty. They found no cause for concern and offered no interpretation, emphasizing the sensitivity of the subject

matter. The treaty also required that France, ‘...agree to the transfer of powers necessary for the...determination of rules relative to the crossing of borders of the member states of the European Community.’ Finally, it required that France acknowledge and treat ‘EU citizens’ as ‘French citizens’ when voting in French municipal elections.

The Treaty also marked a significant alteration of European institutions. It established the current structure of the European Union known as the three pillars—the European Community, the Common Foreign and Security Policy, and the Justice and Home Affairs pillar. Economically, improvements were made to the Single European Market and the creation of the Economic and Monetary Union (EMU). This restructuring was an attempt by member states to extend the authority of the European Economic Community to include foreign policy, military, and judicial powers as well as to consolidate trade regulations across member states and bring about the creation of the euro.

While the French government’s support for the EU reflected what it felt would be best for the nation as a whole, the periphery regions in France stood to gain from the EU because it offered them additional opportunities for greater economic and cultural development (Parks and Elcock, 2000; Cole and Pasquier, 2012). Maastricht facilitated this through the creation of a Single Market and through the creation of the Committee of the Regions.

The debate in France regarding the referendum largely centered on economic development via monetary integration (Méon, 2009). Consequently, voters that stand the most to gain from the establishment of a Single Market, *ceteris paribus*, are more likely to vote for accession into the EU since doing so would lower the cost of transacting across EU member countries (Méon, 2009). With the growing importance of global markets and the desire of France to compete both with its neighbors as well as countries like the United States and Japan, the periphery regions have the most room to develop (Méon, 2009; Anderson and Goodman, 1995).

However, alternative views on monetary integration meant the consensus was not unanimous across regions. Euroskeptics and those supporting the political left, for instance,

assumed the globalization of Europe to be the end of any level of identity: with the introduction of capitalism, uniqueness would be awash with homogeneity (Loughlin and Keating, 2003). The EU responded to this by encouraging regions to use newly integrated markets as places to embrace their cultural identities. They even offered support to those wanting to develop specialized, niche products (Commission of the European Communities, 1987, 1991). The Treaty of Maastricht became for some, an opportunity to preserve cultural diversity (Loughlin and Keating, 2003).

The EU also sought to gain regional support by developing EC-wide regional policy from the bottom up, allowing regulation and policy development to occur at subnational levels where locals could fine-tune and fine-target economic development to their respective needs (Council-Commission of the European Communities, 1970). Accession into the EU and the development of a single-market, then, gave regions the ability to drive and regulate their own economies.

To be sure, the treaty explicitly confirmed that European law does not recognize subnational authorities as institutions in the Union. That said, Maastricht strengthened federal elements which led to the eventual creation of the Committee of the Regions (Loughlin, 1996). Currently comprised of 350 democratically elected members living in the various regions from which they were elected, the Committee of the Regions allows local representatives to “have a say on the development of EU laws that impact regions and cities” over such matters as “...health, education, employment, social policy, economic and social cohesion, [and] energy and climate change.” (European Committee of the Regions, 2017; European Union, 2017). While largely consultative, the role of the regions in EU economic policy legitimized those EU institutions affiliated with regional development by providing access to key decision-making bodies (like the Regional Policy Committee in the European Parliament) and a check on more powerful legislative authorities—cases can be brought in front of the Court of Justice if regions feel they were not adequately conferred to for legislation impacting local or regional governmental affairs (Anderson and Goodman, 1995; European Union, 2017; Öner, 2004). Increasingly, these committees are becoming

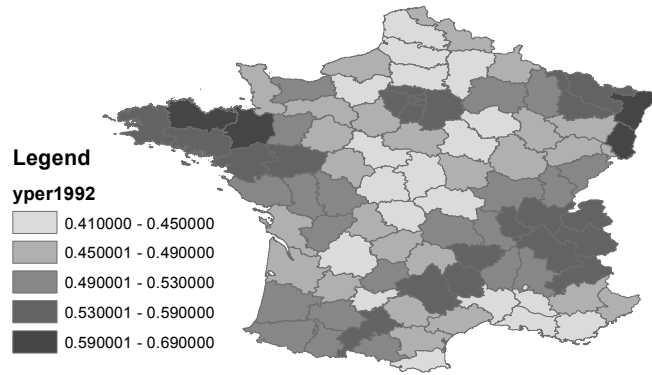


Figure 2.1: 1992 Vote for Accession into the Eurozone: Darker Areas have a higher proportion of ‘yes’ votes. Bins chosen as Jenks Natural breaks.

more influential: the more knowledgeable the local and regional members appear in front of legislative bodies, the more likely their recommendations will pass (Hönnige and Panke, 2013).

An alternative, but not inconsistent, interpretation of the referendum was that voters were not concerned with what it explicitly said; they were concerned with what it might bring. More specifically, with the creation of the three pillars, Maastricht changed the rules of where political, social, and economic decisions would be made. So, instead of national governments driving territorial development, regions could, in effect, compete to gain access to additional funding. Thus, “...voting for Maastricht is a vote for entering an economic and political system that promises to constrain redistribution through national programs, such as national subsidies, industrial policies, employment programs, and other means.” Austin (2005, p.25). For the peripheries in France, a shifting of power away from the state provides additional opportunities to apply for public goods support in the form of subsidies and infrastructure funding.<sup>5</sup>

Polls preceding the 1992 vote for the Maastricht Treaty predicted it would be passed. However, there were political tensions centered around an unpopular president and dissent

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<sup>5</sup>See Saliou (2010) for a discussion of Brittany’s success at obtaining public goods from the EU.

from several parties. On the left, Communists were strongly opposed to European integration claiming that it facilitated the advancement of the capitalist system (Öner, 2004; Loughlin and Keating, 2003). The far right National Front also espoused ‘euro-skepticism’ that stemmed from the fear that national sovereignty and French identity would be lost (Hainsworth et al., 2004). The ruling party, led by Mitterand (a socialist), assumed there would be a resounding yes, but protests within the party generated uncertainty. When the vote was finally held on September 20, 1992, it passed by the slight margin of 51.05% in favor. This would go down in history as the ‘*petit oui*’ in favor of accession to the Eurozone. The distribution of the yes vote by Department is shown in Figure 2.1. Notably, many of the regions which showed the greatest support for accession were minority regions, such as Brittany in the north-west and the Occitan in the south.<sup>6</sup> In section 5, we further discuss reasons for voting variability across these two regions consistent with our empirical results.

## 2.4 The Long Run Effect of Cultural Persistence on Current Identity and Voting Outcomes

We have so far discussed how the preferences of some regions in France differed from those of the majority. We have also discussed narrative evidence for how the Maastricht Treaty may have allowed these regions to achieve their aims. In this section we present empirical evidence to show that those regions in France with a long and stable history of affiliating with local institutions rather than national institutions also voted disproportionately in favor of Maastricht. We will argue that these findings are consistent with our hypothesis that accession to a supranational organization was perceived by French minorities at the time as a way to satisfy their local interests as opposed to supporting European or Nationalist aspirations.

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<sup>6</sup>According to Lewis-Beck and Morey (2007), general political dissent and infighting across parties persuaded voters to reassess their original sentiments and even convinced some to change their mind. Instead of voting strictly along party lines, Lewis-Beck and Morey (2007) found through further analysis of geographical voting patterns that regions that identified by language or religion often showed greater support for the Eurozone.

### 2.4.1 Data

Data on voting outcomes for the referendum are provided by the French Ministry of the Interior (see the volumes in, (*Ministère de l'intérieur*, n.d.)). We call this variable *yper1992* and it corresponds to the percentage of ‘yes’ votes for the referendum in each French Department (see Figure 2.1).

We use two rich historical sources from the eighteenth and nineteenth centuries to establish the persistence of regional identity in influencing the 1992 vote for accession into the EU. The first was collected by the French education minister Victor Duruy and measures the percentage of children that did not speak french as their first language in 1864 at the Department level (de Certeau et al., 2002). We call this variable *Enfants1864*. Figure 2.2 shows the value of the variable across modern French departments. These are the same data used in (Weber, 1976). Language is one medium through which norms and traditions are passed down (Alesina et al., 2003b). As such, historical language usage is a good proxy for historical cultural identity and should correlate with modern day identity.

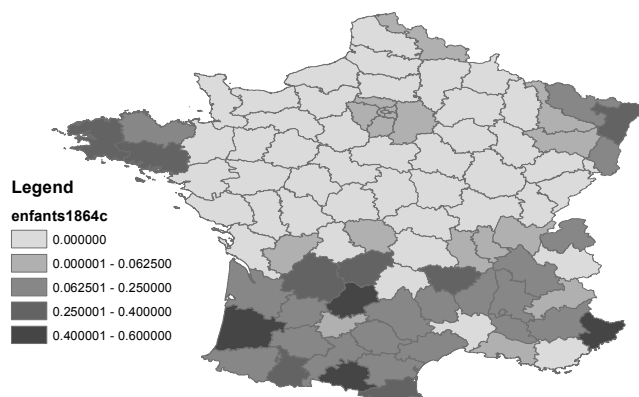


Figure 2.2: 1864 Language Use: Those areas that are darker represent places where a greater proportion of children did not speak french in 1864. Brittany in the upper left and Occitan, comprising the entire south of France, is completely dark and the Occitan, in the south is noticeably more divided.

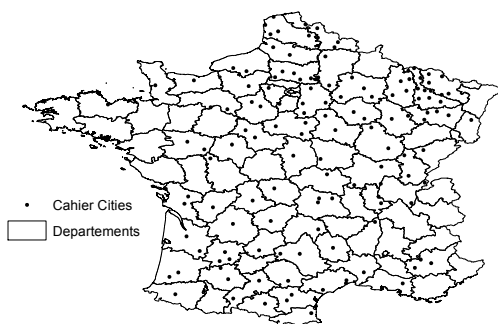


Figure 2.3: Hyslop cities and modern French Departments.

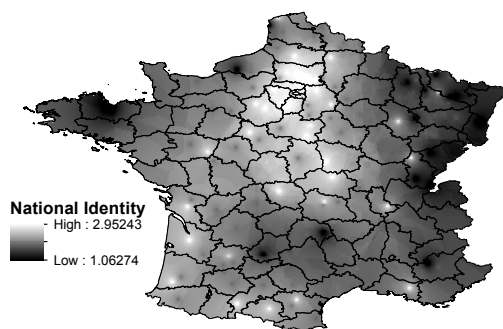


Figure 2.4: National Identity Based on Noble Cahiers

The second set of measures uses data contained in the *Cahiers de Doléances* sent to the Estates General in 1789. In 1788, confronted with both a political and economic crisis, Louis XVI agreed to the calling of the French representative assembly known as the Estates General. Consistent with tradition, before the meeting every baillage (i.e. village) in France compiled a list of grievances to be sent to the Crown in order to guide the coming debate. Representatives of each Estate submitted a separate cahier. These Estates were the First (clergy), the Second (nobility), and the Third (everybody else, though primarily urban merchants). These baillage-level Cahiers were then sent to the capital of the electoral district in which they were located. Each of these approximately 200 electoral districts summarized the baillage Cahiers into a General Cahier. We use these General Cahiers to measure regional identification with the French state. These are the same data used in Squicciarini and Voigtländer (2016) and Johnson (2014).

We use summary measures of the grievances of both the nobility and nobility and the third estate at the election-city level to measure identification with the French state. Excluding the clergy makes sense for our study since their cahiers focused more on religious questions and less on issues of national vs local interest. We also sometimes just use the responses of the nobility since, according to, (Hyslop, 1936) the responses of the third estate were sometimes edited at the election city level and, as such, may not be truly representative. The early twentieth century historian Beatrice Hyslop read all of the cahiers and

recorded information on 42 separate characteristics (Hyslop, 1789). These ranged from issues of education (e.g. ‘does the cahier advocate for a national school system’) to weights and measures (e.g. ‘does the cahier advocate for unified weights and measures’), to feudalism (e.g. ‘does the cahier ask for the elimination of serfdom’). She used these data to create a categorization of the cahiers such they generally agree with one of the following: ‘national patriotism is strongest (to the king or Nation)’, ‘Loyalties were mixed’, ‘loyalties to localities, class or both outweigh national patriotism’, or ‘no sentiment towards nation or locality is shown’. We follow (Johnson, 2014) and recode these categories as 3, 2, 1, and ‘missing’. As such, the higher the index, the greater the affiliation with national as opposed to local institutions for the given cahier city. Since not every modern department contains a cahier city, we use GIS software to generate an imputed value of national identity for all of France and then extract the average imputed value for each department.<sup>7</sup> We call these variables *IdentityNobles* and *IdentityNobles&ThirdEstate*. Figures 2.3 and 2.4 show the geographic distributions of cahier cities and the imputed values of national identity respectively.

We also create measures for current identity using two different surveys. The first measure we use, *IdentityEVS*, is from the 2008 European Values Surveys (EVS) (EVS, 2011). This measure is constructed from question g001 which asks participants:

*Question1: Which of these geographical groups would you say you belong to first of all?*

- (1) locality or town where you live
- (2) region or country where you live
- (3) country as a whole
- (4) Europe
- (5) the world as a whole

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<sup>7</sup>We use ArcGIS to create the identity surface using inverse distance weighting. We the weight using a cross-validation technique that minimizes the mean square error of predicted identity (See, e.g., the appendix to (Jedwab et al., 2015)).



We recoded this question as a binary variable which takes a value of 0 if the subject answered ‘locality of town where you live’ and 1 otherwise. This information is available for France at the NUTSIII level.<sup>8</sup>

We also create a measure of identity gathered closer to the 1992 vote using the Mannheim Eurobarometer (Schmitt and Scholz, 2005) as a robustness check. Like the EVS, the Eurobarometer is a social survey that provides individual level data concerning european values from 15 EU member countries. From this survey, we use the question coded FEEL which we call, *IdentityEurobarometer* in our regressions. It asks:

*Question 2: In the near future do you see yourself as...*

- (1) French only
- (2) French and European
- (3) European and French
- (4) European Only

These data are available only at the regional level (NUTSII) and, as such, we cluster our standard errors at this level in the regressions using it as an outcome.

Finally, we create contemporary covariates from three sources: EVS (EVS, 2011), Mannheim Eurobarometer (Schmitt and Scholz, 2005), and the French census from the National Institute of Statistics and Economic Sciences (INSEE)(*National Institute of Statistics and Economic Sciences*, n.d.). The census data contains information on age, occupation, education, and occupational characteristics country-wide at the *département* level during the 1992 vote. Referring to the table A.3 in the appendix, these include: farmers, artisans, management, associate, employee, workers, assets, unemployment. These controls are added when *yper1992* is the dependent variable. Also included are controls from the surveys themselves. In the event we use our EVS identity variable, EVS controls on gender, age, marital status, educational attainment, income, and town size the survey participants were

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<sup>8</sup>The NUTS III level corresponds to data at the Department level. The analysis is largely unaffected if we run our regressions using the original coding of the question.

from were added. Conversely, in the event we use the Eurobarometer identity variable, we use Eurobarometer controls on gender, age, income, educational attainment, and marital status. Descriptive statistics are available for all variables in the appendix.

## 2.4.2 Empirical Strategy and Results

We first correlate a historical proxy for ‘identity’ and the 1992 vote. In so doing we seek to answer: “Did the same areas in France that exhibited greater emphasis on local institutions historically vote in favor of accession into the Eurozone in 1992?” In keeping with our attempts at robustness we use three different measures of culture which we believe comprise identity:

$$yper1992_i = \alpha_0 + \alpha_1 HistoricalIdentity_i + \alpha_2 X'_i + \zeta_i, \quad (2.1)$$

Equation 2.1 is a standard OLS regressions where  $i$  subscripts the level of analysis (*département*, region, or *baillage*); *HistoricalIdentity* represents our historical identity variables: *Enfants1864*, *IdentityNobles* and *IdentityNobles&ThirdEstate*;  $X'$  contains a vector of relevant covariates; and *yper1992* represents the percentage of ‘yes’ votes during the 1992 Maastricht Treaty Referendum.

Figure 2.1 summarizes the 1992 election results. Figures 2.3 and 2.5 summarize our results for our historical language fractionalization variables—*HistoricalIdentity*. Areas that are more darkly shaded in the 1992 figures appear to be consistent with the more darkly shaded areas in historical figures. Also interesting is the degree of variation for the vote in the Occitan. While there is evidence of disparities in the historical image (there are varying shades of darkness), it appears to be more diverse during the 1992 vote. This is likely due, as our case studies suggest, to the observed heterogeneity of Occitan identity<sup>9</sup>

Empirically, the results are also clear: places where the proportion of children who did

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<sup>9</sup>While space prevents us from extrapolating further, an interesting future work would evaluate the effect of education reforms on various regional identities. Perhaps the context in which Occitan developed or the geographic proximity to the center and to infrastructure made imposing cultural reforms more effective in this area than in areas in the northwest.

not speak French in 1864 was higher, also were places that voted affirmatively for joining the EU. Referring the Table 2.1, a 10% increase in *Enfants1864* is correlated with a .8%-.5% increase in ‘yes’ votes in 1992. These results are statistically significant at the 5% and 10% levels.

We find that increasing *IdentityNobles* as well as *IdentityNobles&ThirdEstate*, leads to a concurrent decrease in ‘yes’ votes in 1992. With larger numbers reflecting greater nationalist sentiment, coded ‘3’ (as opposed to sentiment with localities—coded at ‘1’), we expect the negative sign. This result suggests that increasing nationalist sentiment in the *Cahiers de Doléances* would decrease the proportion of individuals that voted ‘yes’ in the 1992 Maastricht Treaty Referendum.

Table 2.1: Historical Identity Predicting the 1992 Vote: The coefficients of the independent variables are conveyed in this table. Standard errors are reported in parentheses below respective coefficients. Regressions were clustered at the level of the dependent variable. Stars are representative of statistical significance: \*\*\* corresponds to statistical significance at the 1% level; \*\*corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

	Dependent Variable = Vote1992					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
Enfants1864	0.083** (0.037)	0.047* (0.027)				
IdentityNobles			-0.103*** (0.026)	-0.073*** (0.021)		
IdentityNobles&ThirdEstate					-0.083*** (0.024)	-0.044** (0.02)
Census Controls	No	Yes	No	Yes	No	Yes
Obs	87	87	87	87	87	87
R-squared	0.07	0.63	0.20	0.67	0.20	0.64

We next show that historical identity has been very persistent in France in the sense that

present-day survey responses concerning regional affiliation are consistent with historical measures. We estimate versions of the following specification:

$$ModernIdentity_i = \eta_0 + \eta_1 HistoricalIdentity_i + \eta_2 X'_i + \theta_i, \quad (2.2)$$

Equation 2.2 takes the same form as 2.1:  $i$  subscripts the level of analysis (*département*, region, or *baillage*); *HistoricalIdentity* represents our historical identity variables: *Enfants1864*, *IdentityNobles*, and *IdentityNobles&ThirdEstate*;  $X'$  contains a vector of relevant covariates; and *ModernIdentity* proxies current identity as represented by either *IdentityEVS* in 2008 or *IdentityEurobarometer* 1992, respectively.

Referring to table 2.2, *Enfants1864* predicts our identity variable from 2008 at the 10% level. It suggests that a 10% increase in the proportion of children who could not speak french in 1864 would decrease the number of individuals who answered in favor of national institutions (over local ones) by 1.6%. The relationship between both *IdentityNobles* and *IdentityEVS* as well as *IdentityNobles&ThirdEstate* and *IdentityEVS* are strongly statistically and economically significant. Regarding the former, increasing the number of nobility that sided with the king as opposed to local sentiments by 10% is associated with an approximately 2% increase in the number of current individuals who answered in favor of national institutions over local ones. Likewise, the latter results suggest that increasing responses from both the number of nobility and members of the third estate supportive of the king by 10% is correlated with a 1.7% increase in current day individuals that side with national institutions. These results are significant at the 1% level.

Table 2.2: Using historical local identity to predict current local identity: The coefficients of the independent variables are conveyed in this table. Standard errors are reported in parentheses below respective coefficients. Regressions were clustered at the level of the independent variable. Stars are representative of statistical significance: \*\*\* corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \* corresponds to statistical significance at the 10% level.

	Dependent Variable = IdentityEVS					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
Enfants1864	-0.161* (0.094)	-0.165* (0.092)				
IdentityNobles			0.205*** (0.08)	0.194*** (0.076)		
IdentityNobles&ThirdEstate					0.182*** (0.068)	0.174*** (0.066)
Survey Controls	No	Yes	No	Yes	No	Yes
Obs	79	78	79	78	79	78
R-squared	0.024	0.08	0.083	0.129	0.095	0.141

Table 2.3, explores the relation between the identity variable from the Eurobarometer in 1992 which compares preferences for France versus Europe and our historical identity measures. The results, while not as strong statistically as the preceding *IdentityEVS* relationships, still add further robustness to our previous tests establishing persistence of identity in France for at least two reasons. First, we are comparing different identities and thus, we inevitably run into more complex relations why historical “local” identity could be associated with current day “european” identity that are not being captured in our simple model. Our relatively low R-squared values suggest, for example, that we are not completely explaining this relationship. Despite this, however, we are still getting statistically significant results at the 10%.

Second, our results are still economically significant, with coefficients similar to the *IdentityEVS* estimates. In particular, *Enfants1864* and *IdentityEurobarometer* share a positive

relationship suggesting that an increase of 10% (to remain consistent) of the proportion of children who could not speak french in 1864 increases the number of those answering away from a “(1) French only” response towards “(4) European Only” response to the question, “In the near future do you see yourself as...” by approximately 2%. Both *IdentityNobles* and *IdentityNobles&ThirdEstate* are negatively associated with *IdentityEurobarometer*. Increasing either of these by 10% results in a 1.4-1.8% decrease in the number of individuals that favor french over european affiliations. This is what we anticipate since increasing either *IdentityNobles* or *IdentityNobles&ThirdEstate* suggests an increase in the number of nobility or members of the third estate that support the king.

Table 2.3: Using historical local identity to predict current local identity: The coefficients of the independent variables are conveyed in this table. Standard errors are reported in parentheses below respective coefficients. Regressions were clustered at the level of the independent variable. Stars are representative of statistical significance: \*\*\* corresponds to statistical significance at the 1% level; \*\*corresponds to statistical significance at the 5% level; \*corresponds to statistical significance at the 10% level.

	Dependent Variable = IdentityEurobarometer					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
Enfants1864	0.196* (0.113)	.0202* (.100)				
IdentityNobles			-0.065 (0.110)	-0.140* (0.079)		
IdentityNobles&ThirdEstate					-0.074 (0.073)	-0.148* (0.075)
Survey Controls	No	Yes	No	Yes	No	Yes
Obs	87	87	88	88	88	88
R-squared	0.056	0.288	0.012	0.305	0.023	0.334

Lastly, we show that, contrary to the functionalist arguments, the places that voted ‘yes’ in 1992 continue to be places that affiliate most strongly with local identity. In other words,

the persistent regional affiliation with local identity described in the previous regressions is also highly correlated with voting for accession to the EU.

To establish that this relationship exists we estimate equation 2.3:

$$yper1992_i = \beta_0 + \beta_1 ModernIdentity_i + \beta_2 X'_i + \epsilon_i, \quad (2.3)$$

Like equations 2.1 and 2.2, equation 2.3 is a standard OLS regressions where,  $i$  subscripts the level of analysis (*département* or region); *IdentityEVS* and *IdentityEurobarometer* represent our measures of current day identity;  $X'$  contains a vector of relevant covariates; and *yper1992* represents the percentage of affirmative votes for accession into the EU.

Table 2.4: Current Identity Predicting the Vote for the Eurozone: The coefficients of the independent variables are conveyed in this table. Standard errors are reported in parentheses below respective coefficients. Regressions were clustered at the level of the independent variable. Stars are representative of statistical significance: \*\*\* corresponds to statistical significance at the 1% level; \*\* corresponds to statistical significance at the 5% level; \* corresponds to statistical significance at the 10% level.

	Dependent Variable = Vote1992			
	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
IdentityEVS	-0.079** (.035)	-0.04 (.025)		
IdentityEurobarometer			0.047 (0.068)	0.093** (0.04)
Survey and Census Controls	No	Yes	No	Yes
Obs	79	79	87	87
R-squared	0.06	0.69	0.02	0.7

Table 2.4 shows the results from our first two regressions. Consistent with our hypothesis

there is a negative relationship between those that hold more national sentiments (individuals that answered *(2) region or country where you live; country as a whole; Europe; the world as a whole* from question 1, equation 1 from above) and a ‘yes’ vote for accession into the Eurozone. This result is statistically significant at the 5% level without controls and at the 15% when controls are added. The coefficients suggest that a 10% increase in nationalist sentiments would decrease the proportion of those voting ‘yes’ by somewhere between .7% and .4%. As the vote passed by a meager 1.05%, changes in identity, as proxied by the EVS question, appear to matter quite a bit.

The Eurobarometer variable appears to matter even more after adding in controls: a 10% increase in the number of individuals who feel more ‘European’, as opposed to ‘French,’ would increase the proportion of those voting in favor of the EU by nearly a whole percent. This result is significant at the 5% level.

Using two measures of identity from different surveys and different years suggest that our results are relatively robust and persistent.

## 2.5 A Case of Two Regions: Occitan and Brittany

In the subsections to follow we present case studies of two regions—the Occitan in the south and Brittany in the northwest—that provide possible explanation for the disparities in voting outcomes in our empirical results. We believe this difference in the strength of the ‘yes’ vote could reflect the degree of assimilation each region has. We proxy assimilation as the degree of intensity of a unified regionalist identity and the relations and attitudes individuals have towards the central government.

### 2.5.1 The Occitan

During pre-industrial France, the Occitan was characterized by its commercial markets, communal villages, and a relatively equal social structure (Brustein, 1988). Unlike other parts of France during this time, peasants were often able to afford small tracks of land



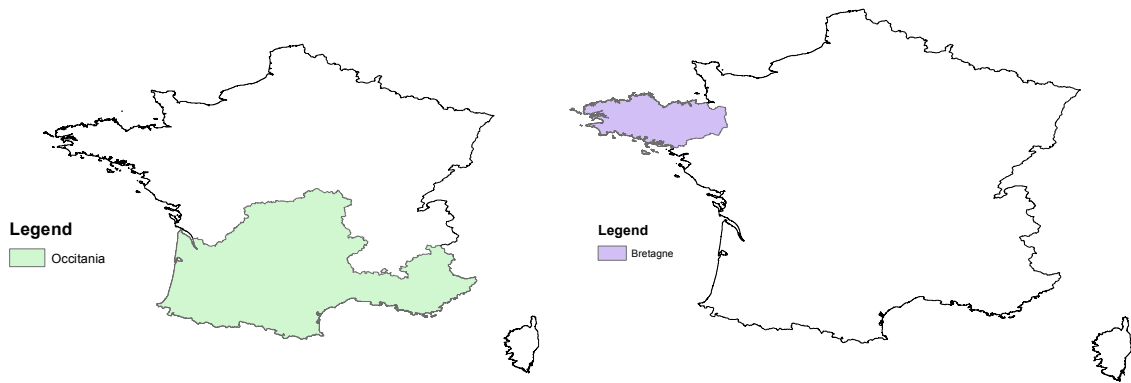


Figure 2.5: Historical Region of Occitania

Figure 2.6: Historical Region of Bretagne

upon which they could grow produce for market or build artisan crafts. The access and interaction with Mediterranean markets led to a relatively prosperous region. However, once the northeast underwent industrialization during the late 1800s, products and services provided in the Occitan were no longer competitive. They transitioned from a diverse and deep economy to a system devoted entirely to producing what it was best at—cheap wine. A one industry economy is not very stable, however.

Indeed, the Occitan became economically dependent through to the 1900s. Its wealth (in the form of capital) was exported and placed into foreign loans and state bonds. Wine was severely over produced. High unemployment contaminated the mining and textiles sectors. Worker revolts and demands for political support were prevalent (Ager, 1990). This environment invariably led to reliance on the state for protection from possible hardship and it facilitated the development of a protest culture aptly referred to as *Midi Rouge*; a reflection of the color of the regions wine and its politics (Bukowski et al., 2003).

Regionalism in the Occitan, was grounded in these shared economic hardships. However, opposing understandings of regionalism took root. By the mid 1900s, two cultural movements were founded: the *Félibrige* and the *Occitanistes*. The former were comprised of cultural elites that sought to reintroduce old traditions by modernizing the Occitan language; the latter which sided with the syndicalist wine producers favoring the tradition of

Occitan protest (Bukowski et al., 2003).

The *Félibrige* school created the *Institut d'études Occitanes* in an attempt to motivate cultural rejuvenation as well as political change. The language and traditions of the Occitan, however, are notoriously variegated. Attempted translations and new dictionaries proved insufficient ways of reinstating Occitan culture. Individuals in the *Félibrige* were, too, divided: some supported a more cultural based approach to political change (those on the political right) and those that desired to take on a more activist regionalist approach (those with leftist leanings). The left ultimately won out with their charismatic leader, Robért Lafont, and his successful attempts at combining both economic and cultural movements with a 'new left' slant. This allowed the *Félibrige* to appeal to their once rivals, the wine producers (Bukowski et al., 2003). This disjointed combination of left and right positions, however, proved to be its eventual fault; it did not create a secure foundation to facilitate exchange between the state and regional politicians.

For the Occitan, regionalist identity could not be used as a coordinating device because differences of opinion existed within the region. Wine producers, with a long history of instability, sought and received subsidies from the central state. Cultural elites, instead, wanted to emphasize the importance of innovation in traditional modes of production and culture. This heterogeneity of identity could be why we see such diversity in voting outcomes in the Occitan.

### 2.5.2 Brittany

Brittany's troubles, like the Occitan, started with industrialization. Prior to this, Brittany was a formidable provider of livestock, high quality linen textiles, and shipping. Natural borders and discontinuous terrain separating the eastern part of the region from the remainder of France resulted in a region that favored infield-outfield<sup>10</sup> cultivation techniques.

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<sup>10</sup>Infield-outfield cultivation refers to the use of fertile land for crops (the infield) until the land becomes fallow. Once fallow, the land is used to raise livestock

Brittany practiced a sharecropping agricultural system that emphasized self-sufficient subsistence. Peasants were paid in-kind, stabilizing wages against shocks, keeping social stratification large. Brittany, to this day, has the largest, ratio of Mayors with noble lineages (Brustein, 1988).

Following industrialization, Brittany, like the Occitan could not compete with mechanized industrial processes. Linen was no longer desirable relative to cheaper cotton textiles and the shipping industry dropped precipitously once France shifted investment from imperialism to industrialization. Poor internal infrastructure compounded troubles as it prevented greater trade with the increasingly prosperous northeast. The result of this, unsurprisingly, was that Brittany had to turn inward and fend for itself.

Unlike the Occitan, which had roots in communal dependence, Brittany thrived on a system that favored subsistence. While this meant that Brittany did not need France for external support, it also meant that the region, lacking in resources and external finance, remained relatively poor into the early 1900s. The harsh centralization reforms decades prior and now the apparent neglect of the region from the center ultimately renewed the Breton nationalist sentiment.

In the early 1900s, two regionalist parties formed out of one (*Union régionaliste bretonne*)—*Parti national breton* and *Fédération régionaliste Bretonne*. The first, of which, sought complete independence from France, while the second did not. It was not until the 1950s, however, that regionalism began to make a strong political and social impact. The *Comité d'études et de liaison de intérêts bretons* (CELIB), was a committee with political clout that desired to redefine the reactionary and idealistic regionalism of the past to a modern regional movement that sought realistic change (Bukowski et al., 2003). The strategy of CELIB was as follows:

- An apolitical approach intended to mobilize all regional forces (Bukowski et al., 2003)
- Rational assessment and exploitation of the regions resources (Bukowski et al., 2003)

- Pressure on the state to ensure that its short-term planning activities took the longer-term needs of Brittany into account (Bukowski et al., 2003)

Brittany’s apolitical strategy and commitment to a common vision of development enabled political coordination and compromise with the center despite frequent disagreement (Cole and Loughlin, 2003). Joining the EU enabled yet another way that Brittany’s economy could be opened up to other European markets.

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## 2.6 Conclusion

This paper shows the degree to which culture matters for political outcomes. We find that those individuals that choose to self-identify as either ‘local’ or ‘European’ as opposed to ‘French’ across the Eurobarometer and European Values Surveys tended to vote ‘yes’ for accession into the Eurozone. Identifying as ‘European’ and voting in favor of joining the Eurozone is an unintuitive result. We argue the reason for this result is due to the political dynamics between regional interests, the state, and the EU. To this effect, we documented the development of these regional interests as a result of their past and present relations with state and their respective economies. In our case studies, both the Occitan and Brittany have historically had separate economic and political institutions. Centralizing reforms after the Revolution wiped out regional cultures and the Industrial Revolution ultimately turned once bustling centers of agriculture, shipping, and artisanal goods into either subsistence economies (Brittany) or unstable polities (Occitan). By the turn of the 20th century, regionalism had taken root.

The presence and persistence of regionalism, we argue, is a *social tool* used to coordinate minority interests against national interests in order to achieve their goals of cultural and economic development. Insofar as these identities are strong and consistent, we should observe political outcomes at the EU level which favor regional interests. The Maastricht Treaty did this for the French peripheries by setting the stage for the Committee of the

Regions and by opening up markets across Europe.

The empirical results as well as the historical accounts in this paper suggest a wider application: we posit that regions in France with smaller relative populations, strong homogeneity of interests, and lower relative income are more likely to vote for accession into the Eurozone in 1992. In the case of France, voting for accession into the Eurozone was a cheaper and less risky alternative to secession, civil war, or complete assimilation. The implications of this result with regards to the future of the European Union are not encouraging. They suggest that the Functionalist hope for the EU – to gradually mold the preferences of heterogeneous regions to support the ‘European Project’ of unification of economic and political institutions – is misplaced. At least within France, the vote for the EU in 1992 was driven by groups who identified themselves, and continue to identify themselves, with local identity. This suggests that EU has not changed hearts and minds and, as such, when the more tangible economic benefits of membership decline, maintaining support for the Union may be a challenge.

## **Chapter 3: Barriers to Entry Index: A ranking of starting a business difficulties for the United States**

### **3.1 Introduction**

Across countries, barriers to entry are barriers to development. Countries with increased entry barriers have more corruption and larger unofficial economies (Djankov et al., 2002), lower rates of innovation and of productivity (Arnold et al., 2011; Barseghyan, 2008), and less competitive business environments (Klapper et al., 2006).

These differences in barriers to entry, however, may be explained away by the quality of institutions. That is: countries with smaller governments, sound money and property rights, freer trade, and lower regulation also tend to rank better on ease of starting a business measures (Gwartney, 2009). What purpose, then, do barriers to entry serve in countries with high quality institutions? Also, what impacts do barriers to entry have on development in countries with better institutions?

In the United States, a country with high quality institutions, barriers to entry may make legal systems run more smoothly (Arruñada, 2007), they may produce higher quality goods and services (Pigou, 1924), and they may improve overall societal welfare (Pigou, 1924) for the reasons public interest theory suggests. Entrepreneurship may benefit, on net, because barriers to entry filter out poor quality entrants and allow governments to more easily enforce contracts. Alternatively, barriers to entry could be the consequence of regulatory capture as the public choice theorists predict (Stigler, 1971) hurting business development, on net. As Baumol (1990) suggests—and Murphy et al. (1991) as well as Gohmann et al. (2013) illustrate—the distribution of entrepreneurship that results in innovation and development (productive entrepreneurship) may be a consequence of the relative

payoffs in innovating productively versus innovating in unproductive or destructive ways (rent-seeking). Consistent with this, Calcagno and Sobel (2013) find for the US, regulations facilitate the development of larger businesses and hurt smaller businesses.

Despite the interest and debate, the use of explicit measures of barriers to entry are largely absent.<sup>1</sup> This paper fills this gap by presenting a new state-level dataset with measures of entry regulations for the United States in 2011. The dataset follows the empirical cross-country barriers to entry literature generally documenting the accessibility of registration, the total costs of registering, and the final time it takes to fully process applications for limited liability corporations.<sup>2</sup> It improves upon this literature by adding measures of occupational licensing which will allow researchers to control for or discriminate across occupation type.

Also included in this paper are two indexes that rank states based upon the process of starting a business. It is unclear how to compile the various measures or how to weight them according to their relative importance because there is so little empirical work which uses explicit measures of barriers to entry in the United States. Additionally, for the same reason, it is unclear which theory—public interest or public choice—should motivate the organization of the measures. To accommodate for these deficiencies, the first index uses principal components analysis to objectively weight and compile measures according to statistical importance. For those researchers that are uncomfortable depending upon data to guide theory or for those researchers that want a general, unweighted measure of barriers to entry, the second index follows the methodology of the Economic Freedom of the World Index (Gwartney et al., 1996) and compiles measures by averaging equally across groups.

The paper proceeds as follows: section two presents and describes the composition and theory behind the barriers to entry measures; section three contains the two indexes; section four concludes and offers recommendations for future work.

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<sup>1</sup>An exception to this is Hausermann (2011) who measures entry fee differentials among other non-entry related (annual fees, entity-level taxes, substantive rules in statutes) regulations to explore the variance in popularity of limited liability corporations across states.

<sup>2</sup>See De Soto (2003), Djankov et al. (2002), Klapper et al. (2006), and World Bank (2016) in particular.

## 3.2 Data and Methodology

This paper uses a new data set that describes the state requirements necessary to start a limited liability corporation (LLCs). The data is separated into two types of procedures. The first set of procedures, called *Explicit Costs*, document the degree of accessibility of registration, the fees associated with registering, and the maximum length of time it could take to fully register. All LLCs must complete these requirements regardless of their practice. The second set of procedures—*Bureaucratic Difficulties*—proxy occupational licensing requirements. Most LLCs, but not all, will have to comply with occupational licensing. These vary by state and occupation.

Data is documented for LLCs as opposed to corporations, partnerships, or sole proprietorships for several reasons. For one, LLCs are a standard business type well documented across the cross-country barriers to entry literature because they allow for more risk-taking which is predominantly absent from sole proprietorships or partnerships (Klapper et al., 2006). Innovations which contribute to economic growth and development, then, more likely come from business types like LLCs or corporations. Second, registration requirements for LLCs have characteristics of smaller business entities like sole proprietorships and partnerships and also larger business entities like corporations. For instance, LLCs typically have to fill out a “business name and parties involved document,” common to all small business entities, in addition to tax documentation and increased registration fees which is typical for larger business entities like corporations. Finally, almost any business can be an LLC. From small family-owned restaurants, to law firms, to large technology firms: LLCs are extremely versatile. This suggests that data on LLCs may act as a good proxy for all business entities.

Data on the first set of procedures is from three state departments for each state—the Secretary of State, Department of Revenue, and Department of Labor—which was gathered using state department websites. If processing times, fees, or accessibility was not readily available online, emails and phone calls were made to the respective departments to acquire this information.



The data on fees and accessibility represent *actual* costs while the data on processing times measures the maximum possible processing times it could take to fully register across all three departments combined. Thus, data on processing times is secondary.

The *Final Cost* and *Final Time* measures are calculated under the assumption that an entrepreneur looking to start an LLC has a strict preference for speed over additional fees. This is not unlike Djankov et al. (2002) where when “there are multiple ways to begin operating legally, we choose the fastest in terms of time” without hiring the services of facilitators (Djankov et al., 2002, p.6). Djankov et al. (2002) does this to understand the structure of regulation in order to discern how the quality of regulation varies across countries. In the United States, however, the quality of regulation should not vary importantly since the states share similar high quality legal, monetary, and tax systems. Instead, this index measures the quantity of impediments to starting a business. For a couple of reasons, however, the above assumption should still reflect an accurate depiction of entrepreneurship in the United States. First, the business climate in the United States is competitive (Schwab and Sala-i Martin, 2015) and so processing time is likely to be more expensive than fees. Geroski (1995) notes that the high quantity of entry barriers in competitive environments may act not as barriers to entry but as barriers to survival. In this way, barriers to entry act as adjustment costs forcing new businesses to prove themselves (compete with incumbent firms) over a shorter time period. Longer processing times, then, may impose more costs in the long-run than fees.

Second, these expedition fees are not prohibitively expensive. On average, expedition fees are around \$75. Even the most expensive expedition fee of \$350 is still unlikely to be a large percentage of the overall costs of starting a business. Adding to this point, the prevalence of opportunity entrepreneurship (those that take advantage of available opportunity) over necessity entrepreneurship (those that start businesses to survive) in the United States suggests that starting a business is affordable (Kelly et al., 2015; Acs and Varga, 2005). That is, opportunity-driven businesses<sup>3</sup> are more likely to be started by highly educated

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<sup>3</sup>Lofstrom et al. (2014) finds that industries with higher barriers, defined as industries intensive in either

individuals with relatively higher wealth holdings (Lofstrom et al., 2014). Thus, paying additional fees to save time is likely cheaper than waiting.

For these reasons, the assumption that entrepreneurs have a strict preference for speed over additional fees is reasonable, albeit not definitive. The author encourages researchers to create other formulations using the raw data.

The second set of data on starting a business procedures called *Bureaucratic Difficulties* comes from Career One Stop (*CareerOneStop*, 2011) and contains information on two occupational licensing measures—the *number of licensing agencies* and the *number of licensed occupations*. True occupational licensing costs are difficult to measure since costs are measured in different units (time, fees, courses) across licensing agencies, occupations, and states. As such, this dataset uses the above two measures as proxies for occupational licensing costs. In this way, occupational licensing costs are assumed to be correlated with both the physical size of the governing agency (number of licensing agencies) as well as its scope (number of occupations that are licensed). The literature on economic freedom suggests that this correlation is indeed positive.<sup>4</sup>

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financial capital or owner education, are statistically significantly more likely to be started by individuals with higher education and wealth holdings. The types of businesses in high barrier industries include: business services, manufacturing, wholesale trade, professional services, entertainment services, finance, insurance, and real estate (Lofstrom et al., 2014).

<sup>4</sup>See Hall and Lawson (2014b) for an extensive review of this literature.

Table 3.1: Descriptions of variables used in the barriers to entry index

Explicit Cost Accessibility Measures	
Measure	Description
Paper Application SOS	Dummy variable where 1 represents required paper application for the Secretary of State
Paper Application DOR	Dummy variable where 1 represents required paper application for the Department of Revenue
Paper Application DOL	Dummy variable where 1 represents required paper application for the Department of Labor
Number of Pages	Summation of total number of pages of paper application forms across all departments
Number of Forms	Summation of total number of registration-related forms across all departments
Explicit Cost Processing Time	
Measure	Description
Online Processing Time SOS	Maximum processing time in days for Secretary of State's online application
Online Processing Time DOR	Maximum processing time in days for Department of Revenue's online application
Online Processing Time DOL	Maximum processing time in days for Department of Labor's online application
Paper Processing Time SOS	Maximum processing time in days for Secretary of State's paper application
Paper Processing Time DOR	Maximum processing time in days for Department of Revenue's paper application
Paper Processing Time DOL	Maximum processing time in days for Department of Revenue's paper application
Expedited Processing Time SOS	Maximum processing time in days of expedited applications for the Secretary of State
Final Processing Time	Summation of minimum possible processing times across departments
Explicit Cost Costs	
Measure	Description
Online Costs	Summation of online costs across all departments
Paper Costs	Summation of paper costs across all departments
Expedited Fees	Expedited fees for Secretary of State
Final Costs	Summation of costs that yields the fastest processing time across all departments
Bureaucratic Difficulties Occupational Licensing	
Measure	Description
Number of Licensed Occupations	Quantity of licensed occupations granted by state occupational boards
Number of Licensing Agencies	Quantity of occupational licensing agency boards

### 3.2.1 Data

The Barriers to Entry Index ranks states using a composite measure of barriers to entry. Included in this is data are nineteen different measures separated into two different categories. The first of these categories of variables is called *Explicit Costs*. These include measures of accessibility, processing times, and fees required to register an LLC across various state departments which follow the barriers to entry literature generally (World Bank, 2016; Djankov et al., 2002; De Soto, 2002).

Also included in this index is a second category of barriers to entry—*Bureaucratic Difficulties*—which is used to proxy additional costs to specific occupations or practices at the state level. This measure is largely absent from barriers to entry indexes at the international level because authors only record barriers to entry for specific types of businesses to simplify and standardize comparisons across countries with different institutions. Djankov et al. (2002) and World Bank (2016), for instance, focus on documenting entry regulations of a “standardized” firm that “performs general industrial or commercial activities...is exempt from industry-specific requirements...[and] it is a domestically owned limited liability company” among other qualifications. Klapper et al. (2006) use a broader definition of a standardized firm—expanding the industry-types of LLCs—but still use data from *The Regulation of Entry* on entry procedures of their standardized firm to compare entry regulations with actual firm entry rates. Since the states share many of those institutions that matter for economic growth such as legal and monetary systems, standardizing firms in the above way is not necessary. Adding bureaucratic difficulties to this index thus allows researchers to study and control for all occupational types of LLCs.

#### *Accessibility*

Accessibility measures are those variables that proxy how easy or difficult it is to *physically* register a business across the three possible state departments—Secretary of State, Department of Revenue, and Department of Labor. This category includes two types of

variables. The first type are qualitative measures that capture the ease of actually registering. They tell us whether applicants have to fill out and submit forms online or if they have to physically submit a paper application. The second type proxies the complexity of the registration process. They are quantitative measures of the combined number of forms and pages an applicant has to fill out across departments.

This first set of variables includes *Paper Application Secretary of State*, *Paper Application Department of Revenue*, and *Paper Application Department of Labor*. These are dummy variables that measure whether or not a paper application is *required* for registration. A “1” designation refers to departments that only offer a paper registration option; a “0” designation refers to departments that offer online registration applications, consolidated online registration applications across departments, or no application requirements. All states require new entrants to register with the Secretary of State and so a “1” or “0” qualification refers to the type of application. Most states require registration with the Department of Revenue and some with the Department of Labor. A “0” designation for these variables means that an online application is required, there is no application, or that the online application was consolidated with a different department.

Previous indexes do not include the online/paper designation. However, the difference in time and effort it takes to submit an application online versus sending or faxing out a paper application is significant. As such, states that require paper registrations are imposing costs above and beyond those that offer an online option. This, therefore qualifies as a barrier to entry.

Referring to table 3.2, compare North Dakota to New Jersey. North Dakota requires new entrants to fill out paper forms across all three departments which could mean additional hours if not days worth of work. At the very worst, applicants would have to fill out the forms, buy postage, drive to the post office, and wait the additional mailing time. At the very best, applicants still have to fill out forms by hand and then scan and fax the documents to the state departments. Applicants in New Jersey, on the other hand, have a consolidated registration across all three departments.

The second set of accessibility variables include the *Number of Forms (paper)* and *Number of Pages (paper)* required for registration. The number of forms variable is the simple aggregation of paper forms across the departments; the number of pages is the sum of standard pages across paper forms and departments. This data comes exclusively from the paper applications since all states offer the option to submit a paper application and quantifying online applications in this way would be too difficult.<sup>5</sup> This should not be concerning. Even if applicants choose to submit an online form over a paper form, the paper applications should still be representative of the information requested for online applications by each state department.

These variables, like the application type data, illustrate the relative complexities associated with applying for registration. States that have much longer applications are also more likely to require greater time and effort from the applicant. These translate into additional costs the applicant must unavoidably take on. In table 3.2 we see large variation in the number of pages that states require applicants to fill out. New Jersey tops out the number of pages at 45 while Oregon’s application (across all state departments) only has 4 pages.

There is less variation across the number of forms—the largest number of forms is 5 and the smallest is 2—but this number is still informative albeit for a different reason than above. The number of forms gives us a better idea of how many departments applicants must go through to register their business. All states require new firms to fill out a federal EIN, otherwise all additional forms included in the variable are those requested by the other departments. If we refer back to New Jersey, for example, we notice it only has one additional form even though it has the largest number of pages. This is because New Jersey consolidated their registration process across all departments. While the number of pages will hurt New Jersey in the rankings, the number of forms variable will compensate.

#### *Processing Time*

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<sup>5</sup>States and state departments that offer online applications do so in different formats. Some require applicants to submit an electronic PDF while others require that applicants use specialized software. As such, it would be difficult to quantify the complexity across online applications.

Table 3.2: Barriers to entry accessibility measures

Barriers to Entry  
Accessibility Measures

<i>State</i>	<i>Paper Application Secretary of State</i>	<i>Paper Application Department of Revenue</i>	<i>Paper Application Department of Labor</i>	<i>Number of Pages (paper)</i>	<i>Number of Forms (paper)</i>
Alabama	0	0	0	7	3
Alaska	0	0	1	15	4
Arizona	1	0	0	10	3
Arkansas	0	0	0	12	4
California	1	0	0	14	5
Colorado	0	1	0	9	4
Connecticut	1	0	0	7	3
Delaware	1	0	1	18	4
Florida	0	0	0	13	3
Georgia	0	0	1	10	4
Hawaii	0	1	0	8	3
Idaho	1	0	0	6	3
Illinois	0	0	0	15	4
Indiana	0	0	0	12	3
Iowa	1	0	1	7	4
Kansas	0	0	0	9	4
Kentucky	0	1	0	12	4
Louisiana	0	0	1	9	4
Maine	1	0	0	20	3
Maryland	1	0	0	10	3
Massachusetts	0	0	0	25	4
Michigan	1	0	0	21	3
Minnesota	0	0	0	14	4
Mississippi	1	1	0	11	4
Missouri	0	0	0	22	3
Montana	1	0	0	8	5
Nebraska	1	1	0	8	5
Nevada	0	0	0	19	5
New Hampshire	1	0	1	11	3
New Jersey	0	0	0	45	2
New Mexico	1	0	0	9	4
New York	0	0	0	7	4
North Carolina	1	0	0	7	4
North Dakota	1	1	1	8	4
Ohio	1	0	1	13	4
Oklahoma	0	1	0	9	4
Oregon	0	0	0	4	3
Pennsylvania	1	1	0	30	3
Rhode Island	0	0	0	11	3
South Carolina	0	0	0	11	4
South Dakota	1	0	1	11	5
Tennessee	0	0	1	9	4
Texas	0	0	0	16	4
Utah	0	0	0	8	4
Vermont	1	1	0	10	4
Virginia	0	0	1	18	4
Washington	0	0	0	7	3
West Virginia	0	0	0	14	4
Wisconsin	0	0	0	8	4
Wyoming	1	1	0	10	5

The next set of explicit costs documented in the index is a *Final Processing Time* measure which is defined as the combined time it *could* take to process and approve (or deny) business registration across all three departments. This measure is comprised of the 7 variables preceding it in table 3. These variables include: *Processing Times-Online SOS*, *Expedited SOS*, *Processing Times-Paper SOS*, *Processing Times-Online DOR*, *Processing Times-Paper DOR*, *Processing Times-Online DOL*, *Processing Times-Paper DOL*. All of these variables are measured in the maximum possible number of days it could take to fully process an application for each department. Often state departments only provided a maximum processing time. Some departments would offer a range of time it could take to process an application. All states provided information for maximum expected processing times. This paper uses maximum processing times because this value was readily available.

To be sure, this means actual processing times may be shorter but typically not longer. Thus, is very possible that this dataset overstates costs associated with processing time. Until actual processing times are available, this current measure should at least proxy difficulties to business registration.

To compute the *Final Time* measure, we first find the minimum possible processing time for each department. This is a simple comparison of online and paper processing times for the Department of Revenue (DOR) and the Department of Labor (DOL). For the Secretary of State, expedited processing times were compared along side online and paper processing time. After the lowest processing times are determined for each department, the maximum number of days across departments is the final processing time.

Referring to the *Final Time* measures for Alabama, for example, we first find the lowest number of days for each department. For the Secretary of State this is 3 since *Processing Times-Online SOS*=*Processing Times-Paper SOS* and *Expedited SOS*<*Processing Times-Online SOS* or *Processing Times-Paper SOS*. The processing time for the Department of Revenue is 1 since *Processing Times-Online DOR*<*Processing Times-Paper DOR*. The processing time for the Department of Labor is 0 indicating that Alabama does not require new



applicants to register with this department. Out of these processing times, the Secretary of State takes the longest. If an applicant applies to both the SOS and the DOR on the same day, the fastest they are guaranteed to be fully registered is 3 full days. Referring to the last variable in table 3, this is Alabama's *Final Processing Time* measure.

Theoretically, processing times act as a barriers to entry for the same reasons that accessibility measures do—processing times impose opportunity costs on entrepreneurs. That is, entrepreneurs looking to start a business in states with longer processing times are spending less time earning a return on their entrepreneurial efforts and more time devoted to legally starting up a business. In competitive environments, this increases the likelihood of business failure, deterring more risk-averse but potentially equally innovative entrepreneurs from entering the market (Geroski, 1995).<sup>6</sup> If processing time becomes sufficiently obtrusive, applicants may seek to start a business elsewhere. For example, Iowa's maximum processing time of 120 days might hinder business development in more competitive industries.

Iowa appears to be an outlier, however, and actual processing times might vary from the stated maximum processing time. Be that as it may, entrepreneurs with fewer ties to Iowa (no family or network ties) or fewer reasons to start a business there (Iowa does not have a particularly unique business governance system like Delaware nor does it rank highly in economic freedom indexes), likely would look to other states for more favorable conditions. Oklahoma and Colorado, with maximum possible processing times of 60 and 56 days respectively, may face similar problems. The majority of states, however, have much smaller maximum processing times, completing the registration process within two weeks. Fifteen of these states can fully process new applicants in 1 day.

### *Registration Fees*

The last set of barriers to entry measures in the explicit costs category include the fees

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<sup>6</sup>Because there is high entry and exit in competitive markets, Geroski (1995) notes that presence of high barriers to entry in these types of markets may not prevent business entry as much as it prevents business survival. Increasing the opportunity costs in the form of processing time or more complex application processes, could act as adjustment costs preventing some newer and smaller firms from competing with larger incumbent firms.

Table 3.3: Barriers to entry processing time

State	Barriers to Entry Processing Time							Final Processing Time
	Processing Times- Online SOS	Expedited SOS	Processing Times- Paper SOS	Processing Times- Online DOR	Processing Times- Paper DOR	Processing Times- Online DOL	Processing Times- Paper DOL	
Alabama	5	3	5	1	5	0	0	3
Alaska	1	2	10	0	0	7	10	7
Arizona	6	6	30	2	56	0	0	6
Arkansas	1	N/A	2	1	21	0	0	1
California	1	1	68	21	21	0	0	21
Colorado	1	N/A	1	56	56	1	42	56
Connecticut	1	1	5	10	42	0	0	10
Delaware	1	1	21	2	21	15	21	15
Florida	3	3	10	1	3	0	0	3
Georgia	1	2	10	1	5	28	28	28
Hawaii	2	3	5	21	21	0	0	21
Idaho	1	1	5	0	0	10	21	10
Illinois	10	1	10	1	14	1	7	1
Indiana	1	N/A	2	0	0	2	10	2
Iowa	7	N/A	7	1	35	120	120	120
Kansas	1	N/A	3	1	7	1	1	1
Kentucky	1	N/A	3	10	10	1	5	10
Louisiana	1	1	4	5	112	28	28	28
Maine	1	1	10	0	0	1	7	1
Maryland	7	7	60	21	21	0	0	21
Massachusetts	2	1	2	1	1	1	1	1
Michigan	1	1	10	1	42	0	0	1
Minnesota	1	1	4	1	5	1	1	1
Mississippi	2	N/A	2	28	28	1	14	28
Missouri	1	N/A	6	5	10	0	0	5
Montana	1	1	10	1	7	1	3	1
Nebraska	5	N/A	5	14	14	7	14	14
Nevada	1	1	10	0	0	1	30	1
New Hampshire	7	N/A	7	0	0	14	14	14
New Jersey	3	1	56	0	0	0	0	1
New Mexico	1	1	15	1	14	1	28	1
New York	1	1	7	0	0	3	28	3
North Carolina	1	1	10	1	10	1	42	1
North Dakota	10	N/A	10	14	14	14	14	14
Ohio	2	2	7	1	42	1	28	2
Oklahoma	2	1	10	60	60	1	14	60
Oregon	1	N/A	14	1	21	0	0	1
Pennsylvania	1	1	3	2	7	0	0	2
Rhode Island	1	N/A	10	3	5	0	0	3
South Carolina	1	N/A	2	1	7	1	5	1
South Dakota	1	1	3	10	10	1	10	10
Tennessee	1	N/A	4	1	28	7	7	7
Texas	1	1	5	1	28	2	7	2
Utah	2	2	7	1	15	0	0	2
Vermont	5	N/A	5	7	7	1	14	7
Virginia	1	1	21	1	3	1	21	1
Washington	1	1	84	14	56	0	0	14
West Virginia	3	N/A	3	1	28	1	10	3
Wisconsin	5	1	5	7	28	1	14	7
Wyoming	5	N/A	5	14	14	1	21	14

associated with registering a business with the state. Table 3.4 lists 3 variables—*Online Fees*, *Application Fees*, *Expedited Fee*—which comprise the *Final Fee* measure. The variables that comprise the *Final Fee* measure are sums of application fees across all three departments. Typically states have one fee regardless of the way (online or paper) an applicant chooses to register. Sometimes, however, the Secretary of State will charge a different fee for online applications than for paper applications. The variable *Online Costs* is for those states with differences across online and paper fees. Only 6 states do this and there is an even split

between those that charge higher fees (Illinois, Minnesota, and Washington) and those that charge lower fees (Alabama, Indiana, and Wisconsin).

The *Final Fee* measure is the sum of fees that yield the fastest processing time across all departments at the lowest possible cost. For Alabama and Wisconsin expediting the SOS application decreases the processing time across all departments. The fees for online applications for these states are also lower. The *Final Fee* for these states is the sum of *Online Fees* and *Expedited Fee*. Illinois charges more for an online application registration and the processing time for online and paper applications is the same. As per the definition of *Final Fee*, an applicant looking to start a business in Illinois will fill out a paper application as opposed to an online form to save money. The *Final Fee* in Illinois, then, is the sum of *Application Fees* and *Expedited Fee*. Researchers may find this contentious, since entrepreneurs in Illinois may find that filling out an online application is worth the extra \$100, but since there is no empirical data to confirm or deny this assumption, we keep it to remain consistent in our above definition.

In cross country studies, fees are included as entry barriers because they are prohibitively high. De Soto (2003, p.133), for instance, explains that entering a small industry legally in Peru costs \$1231—32 times the monthly minimum living wage. In the United States, the highest *Final Fee* is less than half of this—Illinois' \$600 fee—and 41 states register businesses at less than half of that. Thus, fees are not as prohibitive as they are elsewhere. Needless to say, however, small LLCs that have traditionally low profit margins at business start-up—restaurants, hairdressers, or flower shops—or for entrepreneurs with high debt to income ratios—a student that wants to start a baking company or a personal training business—higher registration fees may require additional time spent saving if it does not outright deter them from starting a business in that state to begin with.

Table 3.4: Barriers to entry fees and bureaucratic difficulties

Barriers to Entry  
Fees and Bureaucratic Difficulties

<i>State</i>	<i>Online Fees</i>	<i>Application Fees</i>	<i>Expedited Fee</i>	<i>Final Fee</i>	<i>Number of Licensed Occupations</i>	<i>Number of Licensing Agencies</i>
Alabama	127	160	110	237	131	57
Alaska	N/A	300	150	300	112	56
Arizona	N/A	50	35	50	86	46
Arkansas	N/A	300	N/A	300	367	82
California	N/A	70	350	70	352	69
Colorado	N/A	50	N/A	50	99	40
Connecticut	N/A	220	50	220	304	18
Delaware	N/A	90	50	90	217	42
Florida	N/A	125	125	125	170	9
Georgia	N/A	100	100	100	210	44
Hawaii	N/A	70	25	70	161	46
Idaho	N/A	100	20	100	55	21
Illinois	600	500	100	600	432	36
Indiana	75	90	N/A	75	55	21
Iowa	N/A	50	N/A	50	168	52
Kansas	N/A	165	N/A	165	93	30
Kentucky	N/A	40	N/A	40	244	55
Louisiana	N/A	75	30	75	125	50
Maine	N/A	175	50	175	319	23
Maryland	N/A	105	50	105	115	54
Massachusetts	N/A	500	20	520	142	57
Michigan	N/A	50	50	50	418	100
Minnesota	170	160	10	170	209	33
Mississippi	N/A	50	N/A	50	72	16
Missouri	N/A	105	N/A	105	191	38
Montana	N/A	70	20	70	132	50
Nebraska	N/A	100	N/A	100	234	37
Nevada	N/A	400	125	400	198	58
New Hampshire	N/A	100	N/A	100	201	56
New Jersey	N/A	125	25	150	179	68
New Mexico	N/A	50	200	50	311	45
New York	N/A	200	25	200	186	51
North Carolina	N/A	125	100	125	161	83
North Dakota	N/A	135	N/A	135	217	48
Ohio	N/A	125	100	125	89	34
Oklahoma	N/A	100	25	125	171	44
Oregon	N/A	100	N/A	100	423	54
Pennsylvania	N/A	125	140	125	251	28
Rhode Island	N/A	150	N/A	150	210	39
South Carolina	N/A	160	N/A	160	53	39
South Dakota	N/A	150	50	150	203	33
Tennessee	N/A	300	N/A	300	396	71
Texas	N/A	300	25	300	72	64
Utah	N/A	92	75	92	95	13
Vermont	N/A	100	N/A	100	230	58
Virginia	N/A	100	100	100	92	37
Washington	215	195	50	215	32	13
West Virginia	N/A	130	N/A	130	86	39
Wisconsin	150	190	25	150	395	52
Wyoming	N/A	160	N/A	160	97	45

### *Bureaucratic Difficulties*

Bureaucratic Difficulties make up the second and last set of barriers to entry. These include proxies of occupational licensing requirements that some LLCs will have to comply with in addition to the explicit costs mentioned above. Occupational licensing, while also a type of cost, is classified instead as a bureaucratic difficulty because these “costs” are more difficult to measure. In particular, occupational licensing requirements include varying levels of education, certification, or continuing education prerequisites that are not easily quantifiable as costs or even as times. For instance, continuing education has been defined as a certain number of hours of approved education, a certain number of classes from a specific course, or a certain amount of reading materials. It would be difficult to compare these different education requirements across states and even across occupations.

Instead, this paper proxies the costs of occupational licensing by including measures of two variables from Career One Stop (*CareerOneStop*, 2011), a dataset sponsored by the U.S. Department of Labor. The first measure—*Number of Licensed Occupations*—is the quantity of licensed occupations by state. It informs us of how large the scope of government involvement is across occupations. The second, called *Number of Licensing Agencies*, is the quantity of agencies by state that license occupations. This variable tells us how physically large the government is. This paper assumes that these measures of size and scope are correlated with true bureaucratic difficulties—education requirements, fees, attendance at ceremonies, exams, travel requirements, etc.

Table 3.4 shows the values for the two measures of *Bureaucratic Difficulties*. Across all of the barriers to entry measures thus far, these appear to have the largest variation. For the *Number of Licensed Occupations* measure, states vary from 32 licensed occupations in Washington to over 400 in Illinois, Michigan, and Oregon. The *Number of Licensing Agencies* also has relatively high variation. Florida, for instance, only has 9 licensing agencies, while Michigan has 100. Also interesting is the fact that *Bureaucratic Difficulties* does not appear to be correlated with *Explicit Costs*. Michigan has the highest combined *Bureaucratic Difficulties* but only charges \$100 in registration fees, has a minimum possible processing

time of 1 day, and requires only 1 paper form submission. Colorado, on the other hand has a relatively high processing time of 56 days but licenses only 99 occupations and has only 40 licensing agencies. The low correlation suggests that different forces may be driving the two kinds of barriers to entry. For one, economic theory suggests that incumbent businesses are more likely to have a larger influence upon *Bureaucratic Difficulties* since there are greater returns to decreasing direct competition than to overall competition (at least in places with relatively high levels of economic freedom). Unionization of large industries in some states—California, Michigan, Connecticut, and Illinois, for example—might explain some of the differences observed between *Bureaucratic Difficulties* and *Explicit Costs*.

*Bureaucratic Difficulties*, like the *Explicit Costs* measures, act as entry barriers because they prevent instantaneous entry into the market. Unlike, the *Explicit Costs* measures, though, which regulate business entry directly, *Bureaucratic Difficulties* typically regulate individual applicants of specific occupations. Doctors, lawyers, hairdressers, florists, electrical engineers, plumbers, or landscape architects, for instance, are required to meet certain standards. The places of work themselves are not regulated in this manner. Thus, states with a greater number licensed occupations increase the costs of joining specific professions. For professions with lower relative wages, such as hairdressers, florists, or interior designers, increasing compliance costs is likely to deter some individuals from joining those professions. Likewise, a sufficient increase in licensing requirements for professions with high relative wages will also deter applicants. Delaware, for instance, requires all lawyers to pass an exam and also complete a five month clerkship under the supervision of a Delaware lawyer. These requirements inevitably deter lawyers working and living in other states from becoming barred in Delaware and thus benefiting from Delaware's unique court system.

### 3.2.2 Methodology

As is the case with all economic rankings, there is no theory informing us how complex parts of a certain environment—in this case, a process—should be compiled. Indexes like the Economic Freedom of the World Index (Gwartney et al., 1996), the Index of Economic

Freedom (Miller and Kim, 2016), and The Economic Freedom of North America Index (Stansel et al., 2015) traditionally rank countries or states by averaging all of the various subcomponents to arrive at an overall measure. Compiling measures in this way allows researchers, regardless of political orientation, academic backgrounds, or world views, to replicate this method. This methodology, however unaffected by biases, may not present the correct relationships between various subcomponents. For instance, size of government may be more important than property rights, but an index that averages these subcomponents together will not reflect these respective weights.

Indexes like Freedom in the 50 States (Ruger and Sorens, 2013), on the other hand, attempt to adjust for the mischaracterization of the relative importance of categories by adding weights to public policies “according to the estimated costs that government restrictions on freedom impose on their victims.” For Ruger and Sorens (2013), there is no theoretical distinction between subjectively weighting the above indexes equally (actually believing the subcategories are equal in weight) and objectively doing so (choosing to weight them equally because there is no better solution); the results are the same in either case. Instead, adding weights according to some standard—in this case estimated costs of regulations—may better inform policy makers and researchers the relative importance of certain policies on factors like economic growth and development.

Unfortunately, this method suffers its own faults. It contains the bias that the preceding indexes tried to avoid with the possibility of no added benefit since we cannot determine whether weights are the correct representations of the various relationships; it is unfalsifiable. Nevertheless, both methods offer compelling arguments: an equally weighted index yields a general measure that is replicable while a weighted index, insofar as it is biased in the right direction, may help illustrate the relative importance of some categories. For these reasons, this paper presents two rankings of various barriers to entry composite measures.

The first methodology uses principle components analysis (PCA) to inform how to compile and weight the variables. While it seems reasonable to group the accessibility measures together because they are similar in theme, it may be that only one or two of the

accessibility measures actually matter for whatever effect it is being compared with. PCA informs us of at least one way the various measures matter by transforming the data into groups by order of importance across variation. That is: it simplifies complex data sets by isolating the dimensions or “principal components” that explain the most variation in the data.

This is a more objective way to assign weights than to assume that some policies exert more costs than benefits on freedom. However, it presents a weighting scheme driven not by economic theory but by analysis of the numbers themselves. This is problematic if the data collected is not accurately representing those variables of interest. For this reason, some economic freedom indexes or the Polity IV (Gurr et al., 1990) dataset, which use “arbitrary” or non-cardinal values (Vollrath, 2014) to represent institutional quality, may produce distorted data using PCA.

This dataset does not use “arbitrary” variables. That is, processing times, fees, application formats, and so on, are measures of those variables. It does, however, interpret the *process* of entrepreneurship: applicants favor speed over fees. For the reasons listed in the introduction to this section, this assumption is empirically consistent but, obviously, it will not describe *every* LLC applicant. In this way, PCA may be adding subjective bias favoring this particular process. In so far as this describes a sufficient proportion of LLC applicants across all states, though, the relative rankings remain accurate.



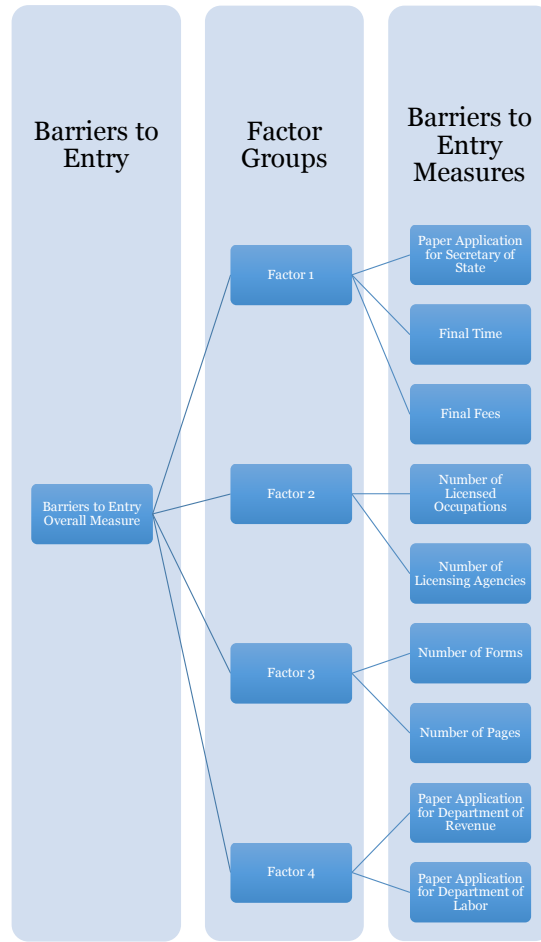


Figure 3.1: Composition of Barriers to entry overall variable using principle components analysis

The overall barriers to entry measure in the far left Figure 3.1 is comprised of weighted average of four factor groups, defined by nine measures. Each factor is a simple average of the barriers to entry measures that belong to that factor multiplied by the weight that PCA assigns according to the amount of variation explained by that factor.<sup>7</sup>

In particular, PCA revealed that four factors explain 65% of the variation in the data. Factor 1—*Paper Application for Secretary of State, Final Time, Final Fees*—is the most

<sup>7</sup>PCA is sensitive to variation across units thus, the measures were standardized first so that all variables were in comparable. A promax rotation was used to determine the factor groups. This rotation is recommended if we want to permit possible correlation across measures (since in the real world these measures are likely to be correlated) (Costello and Osborne, 2005).

important and explains approximately 23% of the total variation across the data, followed by Factor 2—*Number of Licensed Occupations* and *Number of Licensing Agencies*—which adds an additional 17%. Factors 3—*Number of Forms* and *Number of Pages*—and 4—*Paper Application for Department of Revenue* and *Paper Application for Department of Labor*—combined, explain the remaining 25%. The respective weights assigned to each factor are thus 34.09%, 25.56%, 20.75%, and 18.77%.

Interestingly, PCA disassembled the accessibility measures and increased the importance of time and fees. This is actually consistent with what we might expect of the relative importance of each measure: most registration requirements come from the Secretary of State with secondary registration requirements from the Department of Revenue and the Department of Labor and time and fees of registration also appear to be important barriers to entry especially if these barriers act as adjustment costs as Geroski (1995) suggests. The little empirical evidence available also suggests that registration fees are important for the variation in LLC formations across states (Hausermann, 2011).

For those researchers that do not want to depend upon weighting schemes for the reasons stated above, the second methodology is a presentation of composite barriers to entry measures that are unweighted and categorized by theme. In this way, the second methodology more closely resembles those indexes like the Economic Freedom of the World Index. The subcomponents (or “factors” in the Method 1 equivalent) are organized in the same manner that the data were described in the *Data* section. *Accessibility*, refers to those variables that add physical burdens to applications like the length of pages and forms or the format (paper or online) of the application itself. Likewise, processing time variables are included as time measures and registration fees are grouped under the *Fees* subcomponent. Finally, because occupational licensing is entirely separate from the state departments it is included in its own category of measures entitled *Bureaucratic Difficulties*.

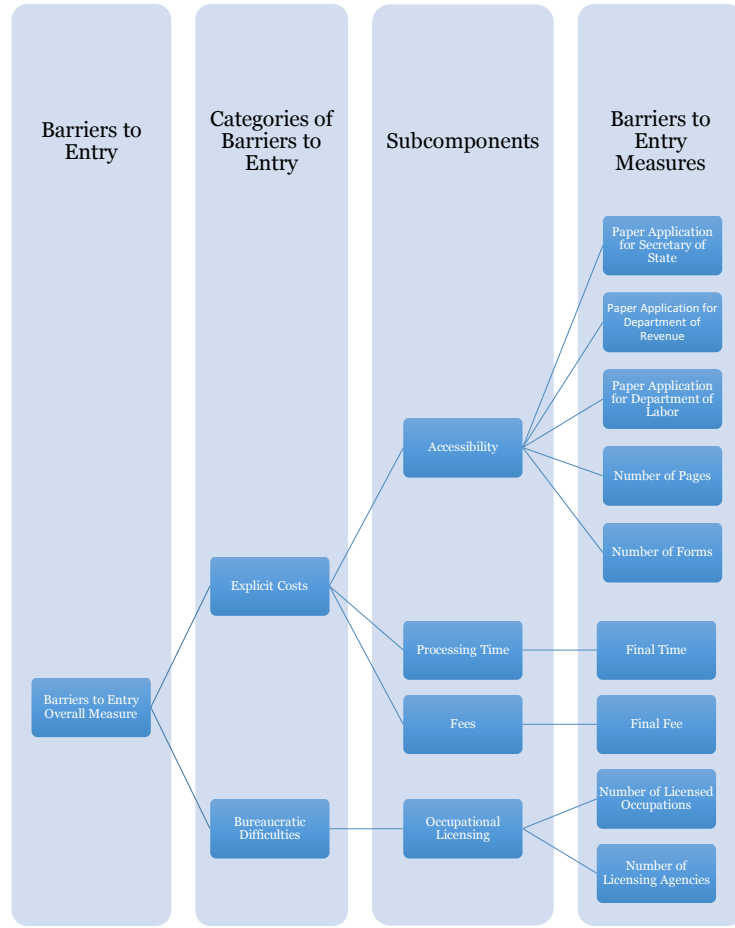


Figure 3.2: Composition of barriers to entry overall variable using averaged subcomponents

Figure 3.2 illustrates the composition of various categories, subcomponents, and measures. The composite variables are created by averaging the preceding group that that variable is comprised of. So, the *Accessibility* composite measure is the simple average of *Paper Application for Secretary of State*, *Number of Forms*, *Number of Pages*, *Paper Application for Department of Revenue*, and *Paper Application for Department of Labor*. Likewise, *Occupational Licensing* is the average of *Number of Licensed Occupations* and *Number of Licensing Agencies*. The remaining two subcomponents—*Processing Time* and *Fees*—include one measure each: *Final Time* and *Fees*. Their values are the same as their measures. The subcomponents are averaged to create the next set of composite measures:

the categories of barriers to entry. *Explicit Costs* are the average of *Accessibility*, *Processing Time*, *Fees* subcomponents; *Occupational Licensing* is simply *Bureaucratic Difficulties*. The *Barriers to Entry Overall Measure* is the average of *Explicit Costs* and *Barriers to Entry Overall Measure*.

Both methodologies use indexed versions of the raw data in order to convert the values of the original measures into values between 0 and 1. The below equation describes this process:

$$x = \frac{n - m}{M - m}$$

where  $x$  is the indexed original measure (included are number of pages, number of forms, time, costs, number of licensed occupations, and number of licensing agencies),  $n$  is the value of that measure by state,  $m$  is the measure's minimum observed overall value, and  $M$  is the measure's maximum observed value overall.

### 3.3 Barriers to Entry State Rankings

Tables 5 and 6 present the rankings for the two methodologies described above. Overall, both rankings present similar results with a few striking differences. For instance, 4 out of 5 states remained in the top 5 and 21 of the top 25 remained in the top 25 across both methods. Variations across these groups differed by a one unit movement in the overall rankings to a 25 unit increase in the overall rankings. For instance, South Carolina moved from 6 to 5 and West Virginia from 7 to 8. Some of the larger movements include Illinois, ranked 38 in the Method 1 rankings and 47 in the Method 2 rankings. Likewise, South Dakota moved from 46 to 32, Rhode Island from 8 to 14, and Alabama from 9 to 19. The largest differentials are Mississippi with a 25 unit decrease from Method 1 to 2 and Ohio with a 22 unit decrease. Wyoming had the largest improvement differential at 17 units,

improving from a rank of 41 in the Method 1 to 24 in Method 2.

Differences in the overall barriers to entry measures across the two methods are a result of placing more weight on those measures that explain the most variation in the data and also the number of times the variables are averaged. Specifically, placing more importance on *Paper Application for Secretary of State, Final Time, Final Fees* relative to the other measures, means that these will be more heavily favored in Method 1 versus Method 2. This is the reason we observe a strong relationship between the *Factor1* composite measures in Method 1 and the overall measure in Method 1 versus Method 2 which has a stronger correlation in the combined composite rankings of *Explicit Costs* and *Bureaucratic Difficulties*. Method 2 also averages the variables that comprise the *Accessibility* subcomponent three times (first to get the *Accessibility* overall measure, second to arrive at the *Explicit Costs* overall measure, and third to get the *Overall Barriers to Entry Measure*) which places less emphasis on these variables in the overall measure.

Table 3.5: Method 1 rankings by state of barriers to entry regulations

Ranking of the States Regarding Barriers to Entry Regulations  
Method 1: Principle Components Analysis

State	Overall	Rank	Factor 1	Rank	Factor 2	Rank	Factor 3	Rank	Factor 4	Rank
Indiana	0.02	1	0.01	1	0.02	3	0.05	11	0.00	1
Washington	0.02	2	0.05	20	0.01	1	0.04	3	0.00	1
Utah	0.03	3	0.01	3	0.03	5	0.08	18	0.00	1
Florida	0.03	4	0.02	7	0.04	6	0.06	12	0.00	1
Kansas	0.04	5	0.03	13	0.05	8	0.08	22	0.00	1
South Carolina	0.04	6	0.02	11	0.05	7	0.09	30	0.00	1
West Virginia	0.04	7	0.02	8	0.06	11	0.09	35	0.00	1
Rhode Island	0.04	8	0.02	10	0.10	26	0.05	9	0.00	1
Alabama	0.05	9	0.04	19	0.10	27	0.04	3	0.00	1
Missouri	0.05	10	0.02	6	0.09	21	0.08	21	0.00	1
Idaho	0.05	11	0.14	38	0.02	3	0.04	2	0.00	1
Minnesota	0.05	12	0.03	14	0.09	20	0.09	35	0.00	1
New York	0.06	13	0.04	17	0.11	34	0.08	14	0.00	1
Oregon	0.06	14	0.01	4	0.19	47	0.03	1	0.00	1
Arizona	0.06	15	0.12	33	0.07	13	0.05	7	0.00	1
Texas	0.06	16	0.06	22	0.09	19	0.10	39	0.00	1
New Jersey	0.06	17	0.02	9	0.13	39	0.10	41	0.00	1
Hawaii	0.06	18	0.03	12	0.09	23	0.04	6	0.09	31
Virginia	0.07	19	0.01	4	0.06	10	0.10	42	0.09	31
Wisconsin	0.07	20	0.03	15	0.18	45	0.08	18	0.00	1
Maryland	0.07	21	0.15	47	0.09	18	0.05	7	0.00	1
Colorado	0.07	22	0.06	23	0.06	12	0.08	22	0.09	31
Louisiana	0.07	23	0.03	16	0.09	15	0.08	22	0.09	31
Connecticut	0.08	24	0.16	49	0.10	28	0.04	3	0.00	1
Georgia	0.08	25	0.04	18	0.11	33	0.08	28	0.09	31
Kentucky	0.08	26	0.01	2	0.13	41	0.09	32	0.09	31
Massachusetts	0.08	27	0.10	28	0.10	29	0.12	48	0.00	1
Montana	0.08	28	0.12	32	0.09	17	0.11	44	0.00	1
Maine	0.08	29	0.14	43	0.11	35	0.08	13	0.00	1
Nevada	0.08	30	0.07	26	0.12	38	0.14	50	0.00	1
New Mexico	0.08	31	0.12	30	0.14	42	0.08	22	0.00	1
Alaska	0.09	32	0.06	24	0.09	22	0.10	37	0.09	31
Oklahoma	0.09	33	0.08	27	0.09	24	0.08	22	0.09	31
Mississippi	0.09	34	0.14	44	0.02	2	0.09	30	0.09	31
Arkansas	0.09	35	0.05	21	0.21	49	0.09	32	0.00	1
North Carolina	0.09	36	0.13	34	0.15	43	0.08	14	0.00	1
Ohio	0.09	37	0.14	36	0.05	9	0.09	34	0.09	31
Illinois	0.09	38	0.12	29	0.17	44	0.10	37	0.00	1
New Hampshire	0.10	39	0.14	40	0.12	37	0.05	9	0.09	31
Pennsylvania	0.11	40	0.14	36	0.10	25	0.10	40	0.09	31
Wyoming	0.11	41	0.15	48	0.07	14	0.12	46	0.09	31
Tennessee	0.11	42	0.06	24	0.20	48	0.08	22	0.09	31
Delaware	0.11	43	0.14	39	0.11	32	0.10	42	0.09	31
Vermont	0.11	44	0.13	35	0.13	40	0.08	28	0.09	31
Michigan	0.11	45	0.12	30	0.25	50	0.08	17	0.00	1
South Dakota	0.11	46	0.15	45	0.09	16	0.12	47	0.09	31
Nebraska	0.11	47	0.14	40	0.10	31	0.11	44	0.09	31
California	0.11	48	0.14	42	0.19	46	0.13	49	0.00	1
Iowa	0.13	49	0.23	50	0.10	30	0.08	14	0.09	31
North Dakota	0.13	50	0.15	46	0.11	36	0.08	18	0.19	50

Table 3.6: Method 2 rankings by state of barriers to entry regulations

Ranking of the States Regarding Barriers to Entry Regulations Method 2: Averaging Components												
State	Overall	Rank	Explicit		Bureaucratic		Accessibility	Rank	Time	Rank	Costs	Rank
			Costs	Rank	Difficulties	Rank						
Indiana	0.08	1	0.06	2	0.09	3	0.11	5	0.01	16	0.06	7
Utah	0.09	2	0.08	3	0.10	5	0.15	8	0.01	16	0.09	12
Washington	0.09	3	0.17	18	0.02	1	0.08	2	0.11	36	0.31	35
Idaho	0.13	4	0.16	17	0.09	3	0.28	21	0.08	32	0.14	21
Florida	0.13	5	0.09	4	0.17	6	0.11	6	0.02	21	0.15	22
South Carolina	0.16	6	0.13	10	0.19	7	0.17	12	0.00	1	0.21	29
Kansas	0.16	7	0.13	9	0.19	8	0.16	11	0.00	1	0.22	31
West Virginia	0.18	8	0.12	7	0.23	11	0.18	14	0.02	21	0.16	24
Mississippi	0.18	9	0.27	35	0.09	2	0.57	43	0.23	45	0.02	2
Virginia	0.20	10	0.17	20	0.23	10	0.40	37	0.00	1	0.11	13
Arizona	0.21	11	0.14	13	0.27	13	0.30	24	0.04	27	0.08	9
Missouri	0.23	12	0.10	5	0.36	21	0.15	10	0.03	26	0.12	20
Minnesota	0.25	13	0.14	12	0.35	20	0.18	14	0.00	1	0.23	32
Rhode Island	0.25	14	0.10	6	0.39	26	0.10	4	0.02	21	0.20	26
Ohio	0.26	15	0.31	40	0.21	9	0.58	44	0.01	16	0.33	37
Montana	0.26	16	0.17	21	0.35	17	0.42	38	0.00	1	0.09	10
Colorado	0.27	17	0.28	37	0.25	12	0.36	29	0.46	48	0.02	2
Hawaii	0.27	18	0.17	19	0.36	23	0.29	23	0.17	42	0.05	6
Alabama	0.28	19	0.17	22	0.39	27	0.08	2	0.02	21	0.41	41
Louisiana	0.28	20	0.22	25	0.34	15	0.36	29	0.23	45	0.06	7
New York	0.29	21	0.15	15	0.42	34	0.15	7	0.02	21	0.29	33
Texas	0.29	22	0.22	26	0.35	19	0.19	17	0.01	16	0.46	43
Maryland	0.29	23	0.22	27	0.35	18	0.30	24	0.17	42	0.21	28
Wyoming	0.30	24	0.32	42	0.28	14	0.63	48	0.11	36	0.21	29
New Jersey	0.32	25	0.13	11	0.51	39	0.20	18	0.00	1	0.20	26
Connecticut	0.32	26	0.26	33	0.39	28	0.28	22	0.08	32	0.41	41
Georgia	0.32	27	0.23	30	0.41	33	0.36	34	0.23	45	0.11	13
Alaska	0.33	28	0.30	39	0.36	22	0.39	36	0.05	28	0.46	43
Maine	0.33	29	0.23	28	0.44	35	0.34	26	0.00	1	0.33	37
Kentucky	0.33	30	0.15	14	0.52	41	0.37	35	0.08	32	0.00	1
New Mexico	0.34	31	0.13	8	0.55	42	0.36	29	0.00	1	0.02	2
South Dakota	0.34	32	0.33	43	0.35	16	0.63	49	0.08	32	0.29	33
Delaware	0.34	33	0.27	34	0.41	32	0.60	46	0.12	41	0.09	10
Nebraska	0.34	34	0.28	36	0.41	31	0.62	47	0.11	36	0.11	13
Oklahoma	0.35	35	0.34	45	0.37	24	0.36	29	0.50	49	0.15	22
New Hampshire	0.35	36	0.24	31	0.47	37	0.50	40	0.11	36	0.11	13
Pennsylvania	0.36	37	0.33	44	0.38	25	0.59	45	0.01	16	0.40	40
Vermont	0.38	38	0.24	32	0.52	40	0.56	42	0.05	28	0.11	13
Massachusetts	0.38	39	0.36	47	0.40	29	0.24	19	0.00	1	0.86	49
Nevada	0.39	40	0.31	41	0.48	38	0.27	20	0.00	1	0.64	47
North Dakota	0.39	41	0.34	46	0.45	36	0.75	50	0.11	36	0.17	25
Oregon	0.40	42	0.06	1	0.74	47	0.07	1	0.00	1	0.11	13
North Carolina	0.40	43	0.23	29	0.57	43	0.35	27	0.00	1	0.33	37
Wisconsin	0.43	44	0.17	23	0.69	45	0.15	8	0.05	28	0.31	35
Iowa	0.46	45	0.52	50	0.41	30	0.55	41	1.00	50	0.02	2
Arkansas	0.52	46	0.21	24	0.82	49	0.17	13	0.00	1	0.46	43
Illinois	0.52	47	0.40	48	0.65	44	0.19	16	0.00	1	1.00	50
Tennessee	0.54	48	0.29	38	0.80	48	0.36	29	0.05	28	0.46	43
Michigan	0.57	49	0.15	16	0.98	50	0.35	28	0.00	1	0.11	13
California	0.58	50	0.43	49	0.73	46	0.45	39	0.17	42	0.68	48

### 3.4 Conclusion

Barriers to entry are often barriers to development because governments lack the restraint necessary to constrain predatory behavior. In countries where governments are constrained, however, it is unclear whether barriers to entry improve development as public interest theory suggests or if they hinder development as public choice posits. This paper presents a dataset that allows researchers to more fully explore these positions for the United States.

In particular, measures of accessibility to applications, the fees associated with entry, the time it takes to register, and occupational licensing proxies are included as raw data and also as composite measures of barriers to entry across two indexes.

There are some limitations to this research, however. Lack of empirical evidence, additional data, and a definitive theory on the impacts of barriers to entry measures for the United States constrains both how the data is presented as well as which measures were collected. Regarding the latter issue, processing time data is secondary—there were no measures available for the *actual* processing times it takes to start a business. Thus, this index may overstate the costs associated with this measures. With respect to the former, there is no precedent informing us how to compile barriers to entry for countries like the United States. To accomodate, this paper presents two indexes of objective weighting schemes. The first uses principal components analysis to inform the ways to weight and compile measures based upon the amount of variation they explain for the whole dataset; the second follows the Economic Freedom of the World Index (Gwartney et al., 1996), compiling measures according to a common theme and weighting these groups equally to create composite measures of barriers to entry.

The way that *Final Time* and *Final Costs* measures were calculated are a final point of potential contention: not all researchers will concede that new entrants favor speed over fees. Even though this is common to Djankov et al. (2002), Klapper et al. (2006), and World Bank (2016)— and even though fees appear to be cheaper than time in places like the United States since the business climate is competitive and fees are affordable—not all potential applicants will proceed in this way. It is entirely likely, for instance, that an applicant has an additional source of income that allows them to endure longer processing times. Alternatively, an applicant may choose to pay expedition fees for the Secretary of State even though they still have to wait on other departments to complete the application. However, this paper still specifically informs entrepreneurs who favor time over costs and generally informs both other entrepreneurs and researchers insofar as it provides a state-level relative measure of barriers to entry.



In this way, the Barriers to Entry Index is an index that more accurately describes a *process* of starting a business, not merely an *environment* entrepreneurs exist within. By building in the process of what steps a prospective entrepreneur must take to start a business, the Barriers to Entry Index therefore contributes practical guidance currently absent from the literature. And by documenting, ranking, and indexing these steps across states, the Index also hopes to follow in the general footsteps of the Economic Freedom of the World Index (Gwartney et al., 1996) or the Economic Freedom of North America reports (Stansel et al., 2015) by granting researchers and policy makers a new objective yard-stick to assess barriers to entry in the United States.

## Appendix A: Supplementary Data Appendix

Our descriptive statistics are presented in the two tables below.

Table A.1: Descriptive Statistics for our Main Variables: This table lists the descriptive statistics for our dependent variable, *yper1992*; current identity independent variables, *IdentityEVS* and *IdentityEurobarometer*; and our historical identity variables, *Enfants1864*, *IdentityNobles*, and *IdentityNobles&ThirdEstate*.

	Obs	Mean	Std. Dev	Min	Max
yper1992	87	0.50	0.05	0.41	0.69
IdentityEVS	79	1.52	0.18	1.00	2.00
IdentityEurobaro	88	1.85	0.14	1.55	2.06
Enfants1864	87	0.12	0.17	0.00	0.60
IdentityNobles	89	2.12	0.24	1.60	2.68
IdentityNobles&Third Estate	89	2.15	0.30	1.35	2.74

Table A.2: Descriptive Statistics for Covariates: This table lists the descriptive statistics for various covariates. We use census controls in all regressions and include either EVS or Eurobarometer (indicated by *Eurobaro* in the label) controls whenever we use the corresponding independent variable in the regressions.

	Obs	Mean	Std. Dev	Min	Max
EducationCensus	88	2.85	0.19	2.47	3.42
AgeCensus	88	43.14	1.20	40.40	46.88
FarmersCensus	88	0.03	0.02	0.00	0.08
ArtisansCensus	88	0.06	0.01	0.04	0.09
ManagementCensus	88	0.07	0.02	0.04	0.20
AssociateCensus	88	0.12	0.02	0.09	0.19
EmployeeCensus	88	0.16	0.02	0.12	0.21
WorkersCensus	88	0.18	0.03	0.11	0.24
AssetsCensus	88	0.16	0.03	0.11	0.21
UnemployedCensus	88	0.20	0.02	0.13	0.25
GenderEVS	79	1.56	0.17	1.25	2.00
AgeEVS	79	51.29	7.10	33.33	74.25
MaritalStatEVS	88	1.59	0.21	1.00	2.00
EducationEVS	79	4.78	0.21	1.00	2.00
IncomeEVS	78	6.51	0.88	3.50	8.50
TownSizeEVS	79	3.71	1.79	1.00	8.00
GenderEurobaro	88	1.52	0.01	1.50	1.53
AgeEurobaro	88	42.51	0.89	39.54	44.84
IncomeEurobaro	88	6.27	0.31	5.57	7.42
EducationEurobaro	88	4.22	0.37	3.64	5.48
MaritalStatEurobaro	88	1.82	0.02	1.74	1.87

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## **Curriculum Vitae**

Megan Teague graduated from Mandarin High School in 2007. She received her Bachelor of Arts from University of Tampa in 2010. She was employed at the Goldwater Institute, Foundation for Government Accountability, and George Mason prior to receiving her Master of the Arts in Economics at George Mason University in 2015.