How Can Trust Be Measured? An Alternative Approach Using Retailers' Refund Policies

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Abstract

What is trust and how can we measure it? Social scientists widely accept as an intuitive truth that trust impacts positively on the economic success of societies. By now there is a large empirical literature studying and quantitatively assessing such a relationship. Yet, there is no consensus on how trust can be properly measured. In this paper, I survey the literature and present an alternative to the common approaches on measuring trust. Traditionally, trust has been identified by relying on surveys—directly asking people if, and how much, they trust their fellow countrymen—and/or on experiments—creating a perfectly controlled environment where the role of trust can be properly isolated and identified. Both approaches have important limitations: the former is prone to misidentification, while the latter is limited by scale issues. I argue that it is possible to capture trust-levels in a real-world context by locating proxies: refund policies implicitly account for the level of trust that retailers posit in their customers and represent a tacit measure of their client's overall trustworthiness. By constructing an index of refund policies of stores that sell a similar set of homogenous goods across different regions/countries, we can get a reliable estimate of trust-differences across these regions/countries. I use Ikea as a study case of how such a proxy can be built.

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1 Introduction

Among social scientists it is widely accepted as an intuitive truth that trust impacts positively in the economic success of societies. However, a common unified understanding of it, is still elusive; the specifics of what are its determinants and its transmission mechanisms are still subject of intense debate. Economists, sociologists, psychologists and other social and cognitive scientists have their own unique characterizations of trust, and not all of them are inter compatible.

Notwithstanding this lack of a theoretical consensus, a buoyant empirical literature has arisen trying to quantitatively measure how trust impacts society. Trust is estimated in a least three distinctive ways: a) A microeconomic approach, in which trust is theoretically defined in game theoretical terms and is empirically analyzed through economic experiments; b) a macroeconomic approach where trust is characterized as a proxy for Social Capital. In this context, trust is empirically assessed via attitudinal surveys: survey respondents are directly asked about their levels of trust and trustworthiness; c) Since Glaeser et al. (2000) there has been an attempt to complimentary combine the experimental and the surveyor approach—linking the micro and macro perspectives—in a common empirical unified framework.

In this paper I present the case for a fourth alternative: It is possible to estimate trust in a real world context by locating proxies. I argue that refund policies implicitly account for the level of trust that retailers posit in their customers, and represent a tacit measure of their client's overall trustworthiness.

Traditionally, warranties and refund policies are seen as a vendor's method of reducing the information asymmetry between them and their costumers (by providing *ex ante* guarantees). However, the continuum of the exact refund policies also provide direct evidence of trust: Vendors are willing to provide larger *ex ante* guarantees if and only if they know that their clients will not take advantage of such loose compliant policies. Hence, for a given store, a lax refund policy accounts for a store's larger trust in its clients, and a stricter policy accounts for less trust.

The existence of global retailers operating in different international markets allows us to compare nations' trustworthiness; the profit maximization assumption allows to implicitly control for the trustee's beliefs and preferences. Using refund policy evidence from one of such global retailers, IKEA, I realize a preliminary analysis. Due to the small sample and the fact that IKEA's refund policies are clustered at a level (most of their stores allow 90 days of refund time), no significant statistical relation was found. But, the intuitive relationship between the proposed trust measurement and income and inequality is evident.

The main purpose of the paper, however, is to set a research agenda that would strive

to build a consistent refund policy index that includes not one, but several representative stores.

The work is structured as it follows: in the next section the main economic literature about trust and its measurement is reviewed; in the third section, the core argument of trust measurement through retailers' refund policies is presented. Some possible objections due to biases are discussed; the fourth section details how a consistent empirical analysis could be made and presents a preliminary analysis using the case of IKEA; the paper ends with a conclusion and some comments about possible future work.

2 What is trust and how has it been measured?

The first mentions of trust as an important factor in society's wealth and well-being originates out of the classical liberal tradition of the Scottish enlightenment. E.g. John Locke's characterization of the relation government-people as a principal-agent trusteeship and Adam Smith's account of the "invisible hand" which,he tells us,will only correctly function when a kind of systemic trust is present (Evensky, 2011). Smith's dictum is well summarized by Arrow (1972, p. 357) who states that "Virtually every commercial transaction has within itself an element of trust".

The classical conception of trust comes from sociological literature. In it, trust is distinguished as a "leap of faith"-intertemporal-cooperation-mechanism between a trustor and its trustee. In this conception, the key aspect behind trust is the willingness of the trustor to be dependent and vulnerable to the power of the trustee (Deutsch, 1962; Simmel, 1978; Luhmann, 1979).

Other definitions, however, stress that the essence of trust lie in trustor's risk taking behavior; For example, Gambetta (1988, p.217) defines trust as "a particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both before he can monitor such action (or independently of his capacity ever to be able to monitor it) and in a context in which it affects his own action."

Even in this extremely brief account of the conceptions of trust, the perennial topics in discussion among trust scholars are manifest: first, how exactly do we decompose trust between the trustor and the trustee; second, how do we differentiate between macro and micro levels' notions of trust; third, do we really need to invoke trust as an *ad hoc* cooperation-enabler mechanism or is it better if we stick with a more rational and calculative account of human decision making. In short, what is the essence of trust? Is it defined uniquely by the characteristics of the agent who trusts or is it contingent on the agent/agents that are being trusted?

2.1 Behaviorist paradigm

Modern behaviorist interpretations (e.g. Fehr (2009)) accept the classical sociological definition of trust as the voluntary act of subjecting oneself to other's authority. However, they argue in favor of identifying trust only as an individual trustee trait, independent of its environment. In this micro-level-orientated paradigm, trust is mainly determined by three trustee's primitive factors: a) His beliefs about other's trustworthiness; 2) His risk taking preferences, as stated in Gambetta's definition; 3) His social preferences, which account for his "irrational" aversions: e.g. betrayal aversion and inequity aversion; the special disutility of being cheated by trusting an untrustworthy agent.

Through experimentation—in what now is known as the Trust Game (Berg et al., 1995)—behaviorists have studied the importance of these three factors; an experimental setting allows for a perfect controlled environment to study what Camerer (2003, p.85) calls "pure trust". First, trustee's beliefs are easily controlled by playing games with unknown or unidentifiable people. Second, borrowing from neurobiological sciences, as Kosfeld et al. (2005) did, it's possible to use some neurochemicals—-such as oxytocin—to control for pure risk taking preferences. Their conclusion is that social preferences alone are the definitive factor in explaining trust, independent of the other two (Fehr, 2009).

The behaviorist literature tends to underscore the superiority of the micro-level experimental research *vis a vis* other competing paradigms, because it allows for a perfect identification of the nature and determinants of trust. However, two main problems may invalid such assertion: first, it is well known that experimental studies have had problems in properly differentiating altruism from trust (Cox, 2004). The use of oxytocin in Kosfeld et al. (2005) paper is even more problematic given that it is well known that such chemical acts as an emotion enhancer. What they may identifying is not trust but heightened oversensitivity; second, experimental studies cannot be properly assessed at a macro level , which is where trust's effects are most important and where they actually matter. Moreover, it may be that micro identification could actually mislead: If we acknowledge that trust may be a complex phenomenon, then *ipso facto* it cannot entirely be understood without relying on the macro level contingencies (Simon, 1969) ; "pure trust" is no real trust. In that sense, contra the behaviorist approach, Barbalet (2009, p.378) states that "The quality of trust and therefore its consequences are always dependent on who is trusted and for what purpose", which is analogous to say that trustee's beliefs, his risk preferences and his social preferences are inexorably intertwined.

2.2 Social capital paradigm.

The macro-level approach argues that trust itself is just a manifestation of a bigger phenomenon: social capital. Putnam (1993, p.167) defines it as "features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions." A concrete connotation of social capital, however, is as debated as that of trust itself.

Although Putnam's original work initially identified social capital as a group attribute, most scholars nowadays accept that it is an individual trait that it is embedded in a collective topology; Glaeser et al. (2002) particularly models it as if it would be indistinguishable from any other kind of capital in as much as the only way of augmenting it is by individually investing in it. This particular approach is relevant because it presents a theoretical association between the micro and macro approaches of trust as we will later see.

A more intriguing problem is identifying the particular nature of social capital: Putnam's definition explicitly outlines it as wealth enhancing. However, it is by no means clear that social capital *per se* has these characteristics. As argued by Olson (1982), it may be that social organizations could act as interest groups with a rent-seeking mentality and hence create social suboptimal equilibriums. Borrowing the terms exposed in North et al. (2012), social capital facilitates collective action responses consistent with both the open access and limited access orders.

Although the exact connection between trust and social capital is still being subject of discussion. It is usually recognized that social capital's role in creating optimal or suboptimal scenarios manifests through trust. For this, two different notions of trust have been distinguished: particularized trust, which comprises the act of trusting in routinely face-to-face interactions-—as in a family or closed communities; and generalized or interpersonal trust, which involves the act of trusting in strangers. Fukuyama (1995) argues that the former—-what he calls familiarism—is associated with limited access order economies, while the latter is correlated with economic success. A direct link between generalized trust and economic growth is suggested by Zak and Knack (2001), who argues that by reducing transaction costs, trust enables larger opportunities for interpersonal exchange.

The definition of generalized trust is consistent with the formal definition provided by the behaviorist approach. Nevertheless, in the social capital approach it is the macro context what gives importance to it. A problem of this literature, nonetheless, is that it tends to be convoluted. As it has been expressed above, the already problematic notion of trust is intertwined with that of social capital. Moreover, when other factors are involved—-such as institutions—the condition is aggravated; a huge endogeneity problem exists due to the lack of a consensus in explaining which variable affects what.

Complementary to theoretical work, a more prominent empirical literature has arisen trying to explain the determinants and the effects of trust in an inductive way. The generalized level of trust is calculated using attitudinal surveys that directly interrogate people over their levels trust and trustworthiness. The *General Social Survey* and the *World Values Survey* are the most used surveys, the former for North America and the latter for international studies. Usually, the generalized trust level is defined as the relative proportion of people in a given locality that answered positively to the following question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Then, by using cross-regional regression analysis, the impact and determinants of trust are evaluated. The most well-known comparison is that of the relationship between trust and economic growth. Knack and Keefer (1997) and Zak and Knack (2001) use Barro regressions and find a positive relationship between both variables. The latter, along withUslaner (2002), also finds a negative relationship between trust and inequality. Not surprisingly—given the several endogeneity problems—the literature is ambiguous in terms of finding causality (the factors we think cause trust, may be themselves consequence of it). For example Bjoernskov (2007) concludes that income inequality is itself caused by distrust. In other work, Nye et al. (2012), by doing local surveys in Manila and Moscow, finds that human capital factors influence the generalized trust level too.

The problem with this empirical orientated literature—as with any purely inductive approach—is twofold: First, there is no consensus and many different works find contradicting results; second, it quantifies a relation that isn't that well understood in the first place. The main theoretical difficulty—that of endogeneity—is not solved by pure empirical perspective neither. As shown above, income inequality is referred as both a cause and consequence of trust. Given that, it is pertinent to reference Fehr (2009, pp.257-259) skepticism in cross-regional regressions of the IV type, due to the lack of a proper effective instrument that is suited for such purpose.

More importantly, the use of attitudinal surveys as a measure of trust is itself very questionable. The exact conveying of the questions are erratic and may not be a reliable estimates of trust. For example,Glaeser et al. (2000) point out that the answers to the main attitudinal question –above referenced- serve to identify the trustworthiness of the respondents instead of its trust level. More problematic is Miller and Mitamura (2003) conclusion, which shows that the question may conflate trust with pure risk taking preferences: An individual may be compelled to answer that it thinks that "most people can be trusted" but at the same time be inclined to state that he "can't be too careful" due to the fact that he may be highly risk averse. Then, the problems of attitudinal surveys is that they are not clear and do not homogenously elicit the same meaning to all the people answering them, which clouds the

results we can take from them.

2.3 Unified framework

Given the disadvantages of both the micro experimental and the macro social capital approach, there has been an attempt to bond both perspectives in a complementary framework.

From a purely theoretical standpoint, there are a myriad of micro-fundamented models that have modeled the causality between trust, social capital, institutional framework, political structure, and economic success. For example, Glaeser et al. (2002) models social capital as an individual trait with positive group externalities. Karlan et al. (2009) build a model in which trust follows from the particular topology of the social network. Bidner and Francois (2011) build a model in which the causality goes from cultural norms to institutional development, and then conclude that trust and institutional success are complements. Similarly, Nooteboom (2007) asserts that systemic generalized trust is compliment of good institutions, but social capital, identified by the notion of particularized trust, is a substitute of them. Rothstein and Stolle (2008) agree that institutional framework and generalized trust are complimentary, but they argue in favor of reversing the causality: good institutions promote institutional trust, which also create a culture of generalized trust.

While the theoretical literature has focused in creating particular coherent models that establish causality, a “unified" empirical literature has arisen adapting the behaviorist theoretical paradigm of “pure trust," using it to test the relationship between it and the attitudinal surveyor answers. Glaeser et al. (2000) initially proposed this approach. In it, a given sample of persons are required to play the trust game and answer an attitudinal survey. Then, the experiment and survey results are analyzed and compared. As already mentioned, Glaeser’s results indicate that the surveys do not reflect trust, but trustworthiness of the individuals. More interestingly, Holm and Danielson (2005) used Glaeser’s methodology in two notoriously different countries—Sweden and Tanzania—and found that surveys were predictive of trust and trustworthiness in Sweden only. Their suggestion is that cultural context matters in how people answer the attitudinal surveys. Ahmed and Salas (2009) replicated the experiment in a larger sample of countries—Chile, Colombia, India, Mexico and Sweden— and similarly to Holm and Danielson, they didn’t find a consistent relationship between behavioral and attitudinal trust.

3 Trust measurement through refund policies

As I have discussed, current methods of trust measurement by experiments and attitudinal surveys—and its amalgamations—are not perfect and each suffers from particular problems. I argue that an alternative measurement mechanism is possible, one which potentially could

complement the others and provide a more reliable understanding of the differences in trust and trustworthiness in distinct societies: I suggest that retailers' refund policies serve as a trustworthy trust proxy.

Refund policies are contracts between the client and the store. The distinctive property of such arrangement is that it is not self-enforcing: it lacks an identifiable and distinguishable incentive mechanism that induces cooperation between the store and its costumer. The reputation mechanism works only for the former—the shop does indeed have an incentive to create and preserve a good reputation as to create a solid client base. The client, however, is for the most part anonymous and has no explicit loyalties to a particular vendor; hence, there is no guarantee that clients won't try to cheat the store. Refund policies in essence tend to embody the trust the store posits in its potential clientele and/or also reflect the trustworthiness of the clientele. So, a lax refund policy would be indicative of higher trust/trustworthiness while a strict refund policy would mean low trust/trustworthiness. As we will see, this reasoning follows from the notion of calculative trust.

3.1 Trust and trustworthiness

By the behaviorist approach tenets, the trustworthy/trust connection in the refund policy method indicates a latent mismeasurement of pure trust. However, by citing modern sociological literature, we can also argue that real life trust inexorably depends on both variables. The particular merits of trust measurement by refund policy referencing depend on the notion of trust you hold.

Most of the empirical literature exploring the trustworthiness / trust nexus follows the intuitive claim that there is a positive correlation between both. Siemrod and Katuscak (2005, p.261) states that "the payoff to being trustworthy depends positively on the average amount of trust in a given country" but that there is no clear connection. The main question is: could a store's trust be representative of generalized social trust or only reflect its client's trustworthiness? The question cannot be entirely answered by pure theoretical terms because it depends on the particular selection of store's refund policies—how representative the selected sample is. However, if we ascertain that being a business owner/administrator *per se* reflects certain traits that are totally different from the whole population, then the refund policy measure would be undoubtedly biased. E.g. in Frank Knight's theory of the firm, its origin is attributed to differences in risk aversion: business owners are less risk averse than salary and wage earners. If that is true, then a refund policy measurement would be positively biased—it will tend to overestimate trust. Alternatively, provided that we can control for the store's biases and client's own self-selection biases—more about this in the empirical section—a refund policy measurement would be able to correctly picture the generalized

social trustworthiness.

However its problems, the proposal I make is still superior to the attitudinal survey approach, which not only suffers from potential pure trust misidentification problems, but, by relaying on heterogeneous survey respondents, also tends to comprise on other conflating and unidentifiable variables.

3.2 Generalized trust, not institutional trust

One of the most relevant difficulties in the trust literature —as in the general institutional and social capital—is how to address the several potential endogeneity problems. Specifically, how can we tell apart the innate trust people has *vis a vis* the "trust" people has in their institutions? The former indicates the true generalized trust level in a society, while the latter—given the definition of institutions as the set of self-enforceable rules and norms—refers mainly to the institutional quality being present in a society.

In this regard, the behaviorist approach seems superior given that it purposefully abstracts from the issue: its experiments, by design, are not contaminated by the institutional context. By comparison—as attested by the above cited Holm and Danielson (2005) and Ahmed and Salas (2009)—the attitudinal survey paradigm do suffers from this problem: the elicited answers to the surveys are directly subjected to the institutional and cultural context of the respondents. In contrast, the refund policy approach could be considered a middle ground between the two methods: while not being absent of possible institutional conflation, its potential problems are relatively minor; refund policies are primarily defined directly by the contractual relation between the store and its clients but it remains as a possibility that indirectly, the institutional framework and/or cultural context has some effects in both the store and the client's behavior. In any case, the proper conclusion is not that the refund policy measurement is flawed as a trust index, but merely that, while truly reflecting generalized trust/trustworthiness in a society, it is still possible that trust itself is caused by institutional quality— an assessment that is beyond the scope of analysis in this paper.

However, there is one potential latent problem of the refund policy approach. The refund policy may be set, not only via the nexus store-clients, but also by the influence of a third party mechanism. (i) Governmental Legislation. Even though most countries and localities do have refund policy regulations, at the retailing industry level it is mostly innocuous and peripheral. First, the sphere of the regulation is mainly limited in trying to increase the visibility of the refund policy to the potential customers—with the goal of increasing their awareness level. Second, where protective legislation exists, it is not entirely enforceable. When disagreement between the store and the client arises, the government has to rely on the same subjective assessments that impeded the initial agreement in the first place. Third, recurring to a

third party enforcer is, for most transactions, costlier than reaching a mutual agreement. (ii) Consumer Agencies. A more challenging factor is the existence of consumer protection agencies—either private or public—whose presence could be strong enough as to impact stores' procedures via reputation mechanisms—instead of direct regulation intervention. E.g. the 2013 Better Business Bureau Report identifies that Furniture Retailing ranks 8th and Departmental Stores rank 11th as the particular industries with more complaints in North America Buraeu (2015) . Exactly how, and how much, the existence of BBB and the complaint compliance mechanism affects retailers' refund policies is unknown. However, I suspect that both small stores and larger global retailer chains are less influenced in their actions by this mechanism. The latter because their size is so small that they are not in the radar of the agencies, the former because they are so large that the impact of what the agency says and does is mostly insignificant in their day-to-day operations.

3.3 Calculative trust, not affective trust

Even though refund policies may not be influenced by an external party, there still is the possibility that some particular biasing rationale explains the actual refund policy set by the stores. Stores routinely use refund policies as a non-price competition strategy to attract customers. E.g. Nordstrom—a US upscale fashion retailer—is famously known for advertising its lax refund policies as a marketing ploy. This kind of behavior, however, is consistent with the conduct of for-profit stores: a retailer sets his ideal refund policy based on an exogenous set of goals—targeting profits or absolute sales. Speights and Hilinski (2014) recount the manner in which stores set their refund policies. *A priori*, the optimization calculations done by the stores seem to undermine the case for trust measurement by using refund policies as proxy. But they do not. A store, with a set of target goals, still depends on the, exogenously given, behavior of its clientele: A lax refund policy is only possible in those cases where the store thinks it's profitable to implement it; a store will only implement a lax policy when they trust their clientele to behave in a given way. This allows to conclude that: (i) the assumption of profit maximization in stores could mean other potential biases are endogenously controlled for; (ii) This notion of trust is consistent with the definition of calculative trust, as in Williamson (1993) and Craswell (1993). However, contrary to them, in this case, trust is what explains the store's refund policy behavior, dependent on the profit maximization paradigm and the client's own trustworthiness.

Contrary to the calculative interpretation of trust, some sociologists and economists of the behaviorist type—-as summarized in previous sections—suggest that the core characteristic behind trust is that it is purely guided by non-rational motives—mainly by affective and emotional traits. One of the possible consequences of that conclusion is emphasizing that,

due to it being defined by purely emotional aspects, then the idea of generalized of trust itself could be invalid. If that were to be the case, then a refund policy measurement—just as any macro measurement—would be invalid too.

4 Empirical application

Having dealt with the theoretical foundations of trust measurement, in this section I analyze some empirical difficulties of quantifying it via refund policies and suggest some possible solutions. Particularly I propose to construct an index that controls for refund policies and activities of global retailers. I present a preliminary analysis from the case of IKEA.

4.1 Creating the ideal measure of trust

The first problem to be solved to create an ideal index is to acknowledge what exactly is our purpose in creating it. There are two main research opportunities: (i) measuring local levels of trust. For which we will need to do fieldwork and survey local stores and their respective policies; or (ii) measuring global levels of trust. For which we need to rely on national and international retailer chains' data.

In this paper, I'll focus in the second option. In that case, our goal should be to account for the refund policy and control for some potential biases in the store and/or the clients. As covered in the last section, even if we acknowledge that store's trust is not representative of society's generalized trust due to distinct risk taking behaviors, we still can get a precise index of generalized trustworthiness. In that case, the theoretical assumption of profit maximization allows us to endogenously control for store's biases and focus in controlling for clients' own biases. Specifically, the greatest empirical problem would be to control for self-selection biases: a given store's refund policy may not reflect the generalized trust/trustworthiness if its clients do not entail a random selection of the whole population.

Because those premises surely do not hold, then a controlling mechanism is needed. Ideally we would have the exact costumer's profiles of the stores—which literally are self-selection controlling devices. Alternatively, most national and global retailers do make visible their target markets which pinpoint exactly the profile of the costumers they are targeting. An ideal index will have to be composed of a mix of stores whose target consumers approximate the most to the whole population.

Another question—given that stores have differentiated policies dependent on the product—is exactly which p bundle of consumer goods should be accounted for. Furniture, electronics, consumables or others? The ideal set would consist of normal goods, as to not make it susceptible of more self-selection biases.

A very broad trust index using refund policies would take the form of a weighted average:

$$Index = \frac{\sum_{i=1}^{n}(\alpha_i * \theta_{ip})}{\sum_{i=1}^{n}(\alpha_i)} \tag{1}$$

Where θ denotes the refund policy of i store and p given goods' basket, and α represents the i store's target costumer. Both variables, however are mostly qualitative, for which a precise subjective appraisal is required. For the estimation of θ, the quantitative base to define if it is lax or strict, is the exact refund time: Letting a costumer return the product for a greater period of time after it was bought, accounts for an increasing trust (and vice versa). However, some qualitative properties should also be considered and quantified: does the refund policy specify some degree of discretional judgment from the store? Does it require the costumer to bring a receipt, show their ID, and bring it with the original package unopened? Answering yes to those questions would mean that independently of the refund time, the refund policy is stricter rather than lax. The exact conveying of θ would have to account for these factors.

4.2 The case of IKEA

In this section I collect refund policy data from each country in which IKEA operates around the world and use it as an example case of trust measurement; I contrast it with empirical regularities such as GDP, Gini Index and with the attitudinal survey of the WVS provided by Roser (2015) .

IKEA represents an ideal base case given its extended global presence and its policy of selling the same homogeneous goods everywhere, independent of their exact store location. Following IKEA's website and Schirone (2012, p.62), it appears that "IKEA customer's profile belongs... to a middle-high class from a cultural and income point of view." This would mean that an IKEA's trust index would be somewhat biased towards these costumers' perspective, which intuitively implies that it is biased towards an overestimation of trust.

Figure 1 and Figure 2 illustrate a simple correlation between IKEA's refund time policies and Gini Index and GNI per capita respectively. Both relations are coherent with the theoretical intuition: the presence of trust is positively related with the economic outcome and negatively with inequality. However, as it is evident,the IKEA data is heavily clustered around a datum: most of IKEA's refund policies across the world are centered in a refund time of 90 days. This most probably means that refund policy time alone doesn't convey all the trust information. We need to account for qualitative factors too—as I've described before.

Traditionally, trust by surveys and experiments is compared by simple OLS regressions, where the behaviorist conception of "pure trust" is used as the dependent variable—the idea is to quantify survey trust's biasedness. As I do not have a database to compare refund policy and experimental trust, I regressed attitudinal trust, as provided by Roser (2015), with

respect to refund policy time. I used a discretional dummy to try to account for the qualitative factors that maybe be biasing the sole refund time data. Figure 3 displays the simple scatter plot with the regression line - the regression table is showed in the appendix too.

The results are somewhat inconclusive, the positive relationship between both measures of trust is confirmed, but it is not statistically significant. Besides, the discretional dummy tends to diminish the relationship rather than increase it. However, one must take in mind, as I have stressed throughout the paper, that the attitudinal measurement of trust is not an ideal standard to make comparisons with.

Although IKEA's refund policy technically presents a good case, alone it is not sufficient to convey a country's trust. A full index should be made, one that incorporates quantitative and qualitative factors and controls for the several biases already described. In this paper I have presented the theoretical case for doing so; I provided a rough guideline of how to do it; and I presented preliminary results that indicate that, although not being convincingly enough *per se*, the project is feasible and promising.

5 Conclusions

The first goal of the paper is to review the trust literature relative to trust's empirical measurement. The behaviorist approach, which highlights the understanding of a "pure trust" through experimental settings, is by definition incapable of quantifying the relationship in a macro level, which brings into question its usefulness—if we accept that trust may be a complex phenomenon. On the contrary, the attitudinal survey approach does takes into account the macro level, but it's too vague and non-rigorous. The union of both paradigms has only served to highlight the biasedness of the attitudinal approach with respect to the behaviorist one. However, a complete understanding and empirical assessment of trust is still elusive.

The second and most important goal of the paper is to present a research agenda set on the idea that an alternative is possible and viable. One can measure trust/trustworthiness by recurring to proxies in real life. Refund Policies by retailer stores provide the case for doing that; they identify the trust relationship between the store and its clients. Even if we doubt that refund policy is a trustworthy trust measure, its cases as a measure of trustworthiness of its clients is still strong.

In order to empirical analyze the refund policies, however, one must take into account several biases—by the store and by the clients. In the paper I have preliminary reviewed the case of IKEA. Alone, is not sufficient to be a reliable trust indicator—data is clustered and qualitative factors are not properly factored. However, it is a first step that can be improved upon.

A Appendix

Table 1: IKEA Refund Policies, Income, Inequality and Attitudinal measure of Trust

Country	Refund Time	Dummy	GNI per capita	Gini Index	Att Trust
Australia	90	0	59,790	34.01	46.1
Austria	90	0	47,960	30.04	
Belgium	90	0	44,810	33.14	
Bulgaria	40	1	6,850	34.28	22.2
Canada	45	1	50,650	33.68	42.8
China	60	1	5,720	42.06	52.3
Croatia	90	1	13,260	33.61	
Cyprus*	40	1	26,410	29	9.9
Czech Rep	90	0	18,130	26.39	
Denmark	Unlmtd	0	59,860	26.88	
Dominican Rep	90	1	5,430	45.68	
Egypt	30	1	2,980	30.75	18.5
Finland	90	0	46,820	27.79	58.9
France	90	1	41,860	31.69	18.8
Germany	Unlmtd	0	45,170	30.63	36.8
Greece	40	1	23,670	34.74	
Hong Kong	30	0	36,280	53.3	41.1
Hungary	90	1	12,450	28.94	
Iceland	Unlmtd	1	38,370	26.3	
Ireland	365	1	39,110	32.06	
Israel	90	1	32,030	42.78	
Italy	90	0	34,810	35.52	29.2
Japan	90	0	47,690	32.11	39.1
Lithuania	90	1	13,910	32.63	
Malaysia	100	0	9,820	46.21	8.8
Netherlands	90	0	48,110	28.87	45
Norway	Unlmtd	0	98,880	26.83	74.2
Poland	Unlmtd	0	12,660	32.78	19
Portugal	90	1	20,620	38.5	
Puerto Rico*	90	0	18,370	53.7	
Qatar	30	1	78,060	41.1	
Romania	90	1	8,560	27.33	20.3
Russia	60	0	12,740	39.69	26.2
Saudi Arabia**	90	1	24,660	32	
Singapur	100	1	51,090	48.1	
Slovakia	90	1	17,070	26	
Spain	365	1	29,340	35.75	20
Sweden	90	0	56,120	26.08	68
Switzerland	Unlmtd	0	80,950	32.35	53.9
Thailand	100	0	5,250	39.37	41.5

Continued on next page

Table 1 – *Continued from previous page*

Country	Refund Time	Dummy	GNI per capita	Gini Index	Att Trust
Turkey	30	0	10,810	40.04	4.9
United Arab Emirates**	30	1	38,620	31	
United Kingdom	365	1	38,300	38.04	30.5
United States	90	0	52,350	41.12	39.3

Notes: The table shows those places where IKEA operates and Refund Policy information is available through their websites. In those cases where the re is "unlimited" for which the costumer has no time limit to return a product, to do the correlation and regression I assumed it was only of two years; Di Dummy refers to the presence of a visible remark in the website where IKEA reserves the right to deny the refund (which would take the 1 dummy); GNI p information is from the World Bank, 2012 PPP Dollars ; Gini Index information comes from World Bank except for places with * where the info comes fro World Fact Book, and ** where the info is from Global Peace Index. The years used are the latest available - varies from country to country, from 2003 Trust index by attitudinal surveys comes from Roser (2014)

Figure 1: Refund Time and Income

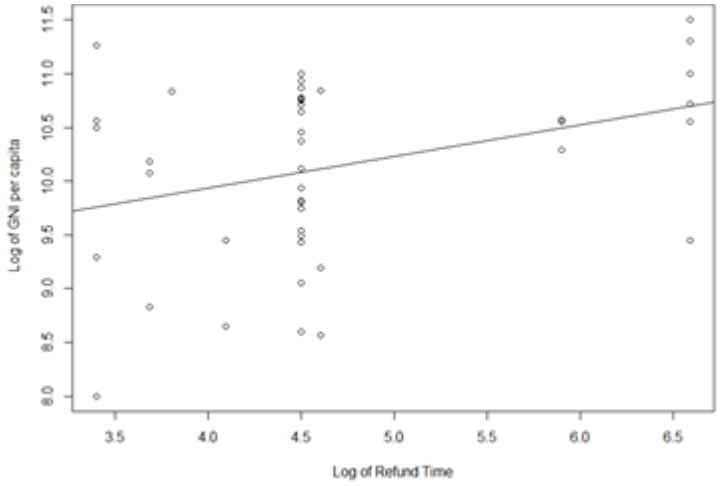

Figure 2: Refund Time and Inequality

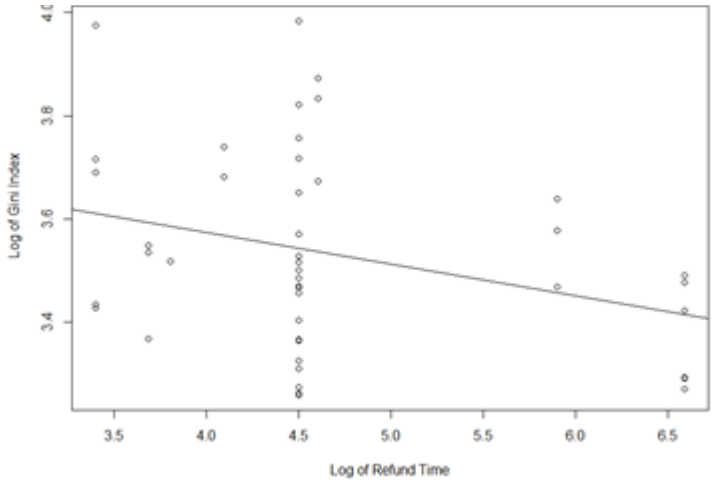

Figure 3: Refund Time and Attitudinal Trust

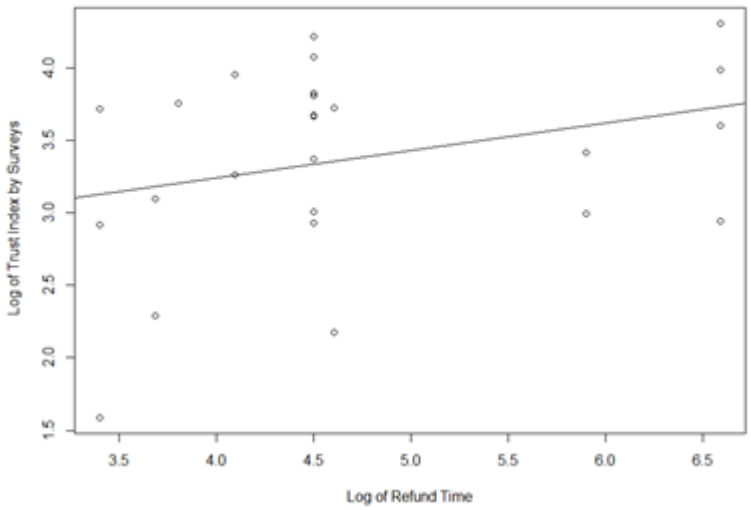

Table 2: OLS, Dependent = Attitudinal Measure of trust

	(1)	**(2)**
Refund Time	0.19	0.16
	(0.1261)	(0.1298)
Discretional Dummy		-0.265
		(0.2769)
Obs	23	23
R2	0.09012	0.1265

Note: Variables tested in logarithmic form. Standard Errors in parenthesis.

References

Ahmed, Ali and Osvaldo Salas, "The relationship between behavioral and attitudinal trust: A cross-cultural study," *Review of Social Economy*, 2009, *67* (4), 457–482.

Arrow, Kenneth, "Gifts and Exchanges," *Philosophy & Public Affairs*, 1972, *1* (4), 343–362.

Barbalet, Jack, "A Characterization of Trust, and Its Consequences," *Theory and Society*, 2009, *38* (4), 367–382.

Berg, Joyce, John Dickhaut, and Kevin McCabe, "Trust, Reciprocity, and Social History," *Games and Economic Behavior*, 1995, *10* (1), 122–142.

Bidner, Chris and Patrick Francois, "Cultivating Trust: Norms, Institutions and the Implications of Scale," *Economic Journal*, 2011, *121* (555), 1097–1129.

Bjoernskov, Christian, "Determinants of Generalized Trust: A Cross-Country Comparison," *Public Choice*, 2007, *130* (1), 1–21.

Buraeu, Better Business, "2013 Complaint and Inquiry Statistics: US and Canada," 2015.

Camerer, Collin, *Behavioral Game Theory: Experiments in Strategic Interaction*, Princeton, NJ: Princeton University press, 2003.

Cox, James, "How to Identify Trust and Reciprocity," *Games and Economic Behavior*, 2004, *46* (2), 260–281.

Craswell, Richard, "On the Uses of "Trust": Comment on Williamson, "Calculativeness, Trust, and Economic Organization," *Journal of Law & Economics*, 1993, *36* (1), 487–500.

Deutsch, Morton, "Cooperation and Trust: Some Theoretical Notes," in Marshall Jones, ed., *Nebraska Symposium on Motivation*, Lincoln, Nebraska: University of Nebraska Press, 1962, pp. 275–319.

Evensky, Jerry, "Adam Smith's Essentials: On Trust, Faith, and Free Markets," *Journal of the History of Economic Thought*, 2011, *33* (2), 249–267.

Fehr, Ernst, "On the Economics and Biology of Trust," *Journal of the European Economic Association*, 2009, *7* (2), 235–266.

Fukuyama, Francis, *Trust: The Social Virtues and the Creation of Prosperity*, New York, NY: Simon & Schuster, 1995.

Gambetta, Diego, "Can We Trust Trust?," in Diego Gambetta, ed., *Trust: Making and Breaking of Cooperative Relations*, Oxford: Basil Blackwell Ltd, 1988, pp. 213–238.

Glaeser, Edward, David Laibson, and Bruce Sacerdote, "An Economic Approach to Social Capital," *The Economic Journal*, 2002, *112* (483), F437–F458.

_ , _ , Jose Scheinkman, and Christine Soutter, "Measuring Trust," *The Quarterly Journal of Economics*, 2000, *115* (3), 811–846.

Holm, Haekan and Anders Danielson, "Tropic Trust Versus Nordic Trust: Experimental Evidence From Tanzania And Sweden," *The Economic Journal*, 2005, *115* (503), 505–532.

Karlan, Dean, Markus Mobius, Tanya Rosenblat, and Adam Szeidl, "Trust and Social Collateral," *Quarterly Journal of Economics*, 2009, *124* (3), 1307–1361.

Knack, Stephen and Philip Keefer, "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation," *The Quarterly Journal of Economics*, 1997, *112* (4), 1251–1288.

Kosfeld, Michael, Markus Heinrichs, Paul Zak, Urs Fischbacher, and Ernst Fehr, "Oxytocin Increases Trust in Humans," *Nature*, 2005, *435* (7042), 673676.

Luhmann, Niklas, *Trust and Power*, New York, NY: Wiley, 1979.

Miller, Alan and Tomoko Mitamura, "Are Surveys on Trust Trustworthy?," *Social Psychology Quarterly*, 2003, *66* (1), 62–70.

Nooteboom, Bart, "Social Capital, Institutions and Trust," *Review of Social Economy*, 2007, *65* (1), 29–53.

North, Douglass, John Wallis, and Barry Weingast, *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*, Cambridge: Cambrdige University Press, 2012.

Nye, John, Greg Androushchak, Desire Desierto, Garett Jones, and Maria Yudkevich, "What Determines Trust? Human Capital vs. Social Institutions: Evidence from Manila and Moscow," 2012.

Olson, Mancur, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*, New Haven: Yale University Press, 1982.

Putnam, Robert, *Making Democracy Work. Civic Traditions in Modern Italy*, Princeton, NJ: Princeton

University press, 1993.
Roser, Max, "Trust," 2015.
Rothstein, Bo and Dietlind Stolle, "The State and Social Capital: An Institutional Theory of Generalized Trust," *Comparative Politics*, 2008, *40* (4), 441–459.
Schirone, Dario, "Customers' Behaviour Analysis in Furniture Field: IKEA Case in the Northern part of Bari province," *Journal of Knowledge Management, Economics and Information Technology*, 2012, *2* (6), 125–145.
Siemrod, Joel and Peter Katuscak, "Do Trust and Trustworthiness Pay Off?," *Journal of Human Resources*, 2005, *40* (3), 621–646.
Simmel, George, *The Philosophy of Money*, London: Routledge and Kegan Paul Ltd, 1978.
Simon, Herbert, "The architecture of complexity," in "The Sciences of the Artificial," Cambridge, MA: MIT Press, 1969, pp. 192–229.
Speights, David and Mark Hilinski, "Return Fraud and Abuse: How to Protect Profits," 2014.
Uslaner, Eric, *The Moral Foundations of Trust*, Cambridge: Cambrdige University Press, 2002.
Williamson, Oliver, "Calculativeness, Trust, and Economic Organization," *Journal of Law & Economics*, 1993, *36* (1), 453–486.
Zak, Paul and Stephen Knack, "Trust and Growth," *The Economic Journal*, 2001, *111* (470), 295–321.