When Are We Mostly Selfish?
The Embeddedness of Relationships in Economic Transactions

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Abstract: A growing literature emphasizes the importance of social relationships on the terms and level of economic transactions. By collecting primary data on the motives of varying transactions, this study supports the notion that including the value of social relationships in economic models might improve model fit and predictions. Relative to a traditional transactions such as the purchase of gasoline which is mostly motivated by own-consumption considerations, relational transactions such as getting a haircut, voting, and recycling depend more self-respect, good will, belonging, and sharing motives that depend on social relations..

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The popular press often laments the influence of personal relationships in economic transactions. From Al Pacino's character in *The Godfather* (1972) coldly declaring, "It's nothing personal... It's strictly business," to pointed articles with titles such as, "Why Friends and Family Are Your Worst Business Enemies" (Kohler, 2013), thought leaders often attempt to separate the marketplace from relationships. Perhaps because of this negative sentiment about the influence of relationships in decision-making, economists have rarely asked a key question: Is it even possible to separate relationships from economic transactions?

Early economic thinkers such as Adam Smith, David Hume, and Antonio Genovesi considered the importance of social relationships as instrumental in market transactions (Bruni and Sugden, 2000). In contrast, the neoclassical theory of the twentieth century often assumed away social relationships in the favor of more precise mathematical models (Hoff and Stiglitz, 2016). Instead of embracing the relational nature of economic transactions, many economists argued that relationships played a trivial role in resource allocations. As noted by Etzioni (1991, pp. 3), "The neoclassical paradigm, we have seen, attempts to show not merely that there is an element of pleasure in all seemingly altruistic behavior, but that self-interest can explain it all."

More recently, economists have argued that people behave unselfishly when exchanges occur in social capital rich relationships of trust, regard, and sympathy/empathy. By focusing on the importance of prosocial behavior, behavioral economists have been better able to identify how to incentivize positive social outcomes. For example, Siles et.al. (2000) and Perry and Robison (2001) found that the minimum selling price for farm land depended on whether land was sold to strangers, friends, family, or unfriendly neighbors. To explain social capital's influence on the

terms and level of exchange, Robison and Ritchie (2010) proposed that one's social capital produces intangible socio-emotional good that satisfy socio-emotional needs for validation, belonging, and knowing. Indeed, research suggests that increases in time spent on relationships is likely to increase self-reported happiness (Becchetti, Trovato, and Bedoya, 2011).

Despite a growing literature focused on how social relationships influence economic transactions, no research has focused on how social relationships might be *embedded in the transaction itself*. The overall objective of this article is to demonstrate how the decision to exchange a good or service is often rooted in the relationship it represents, creating de facto "relational transactions."

We distinguish between "commodified transactions" - whose value depends mostly on the observable physical properties of exchanged goods - and "relational transactions" - whose value depends mostly on their connections to social capital rich persons. To accomplish this task, we conducted a stated motives survey, which asked participants to identify their motives for participating in an economic transaction. We utilize the social capital model developed by Robison et al (2012), in which the demands for these distinct goods produced five distinct motives that underlie individual choices – four more than the traditional economic model's 'selfishness' motive.

The remainder of the article is organized as follows. First, we describe our theoretical framework surrounding the pro-social motives that might be embedded in an economic transaction and explain this concept in terms of "commodification" and "relational transactions." This section also includes our hypotheses, which center on how social relationships might be embedded in goods and services. Second, we describe our methods, which involved a survey of 1,045 MTurk users and tested our hypotheses by focusing on goods and services likely to have varying levels of embedded social value. Those goods and services include buying, gasoline, buying a haircut,

recycling, and voting. Third, we present our results, which support our hypothesis that social relationships can be embedded into economic transactions; generating what we define as "relational transactions." The final section concludes with a discussion of the limitations of our study and suggestions for future research.

Theoretical Framework

The nature of relationships in transactions is not new. The value of "relational goods" has been discussed in some detail by Uhlaner (1989), Gui and Sugden (2005), Becchetti. Pelloni, and Rossetti (2008), Bruni and Stanca (2008), and Luigino and Stanca (2008). These authors share the view that the value of relational goods depends in part on their connection to the people who produce, exchange, consume and preserve them. Relational goods have been shown to improve well-being (Rasciute, Downward, and Greene, 2017). Social capital rich relationships of trust, regard, and caring produce intangible socio-emotional goods that satisfy socio-emotional needs (Oliver and Robison, 2017). Furthermore, socio-emotional goods can become embedded in goods or services, changing their value and meaning (Robison and Flora, 2010; Frey, 2007). Items embedded with socio-emotional characteristics can be referred to as attachment value goods (Frey, 2007).

Socio-emotional goods can be exchanged directly between persons in a social capital rich relationship and through the exchange of attachment value goods (Robison and Ritchie, 2010). The direct exchange of socio-emotional goods between persons depends on the nature of the relationship, that is, the social capital that exists between exchange partners. For example, one may imagine socio-emotional goods produced and exchanged when two friends greet each other, recognize admirable qualities in each other, and make mention of each other's achievements.

Alternatively, imagine socio-emotional goods produced and exchanged when one person makes a commitment to another or includes the other person in a significant event.

Alternatively, exchanges of attachment value goods depend on the connection between the good exchanged and the social capital source of the embedded socio-emotional goods. For example, one may imagine an attachment value good created when a famous person signs an autograph, endorses a product, when one offers or accepts an engagement ring, or when one receives an honorific good signaling unusual achievement at work, sports, or other settings. Both socio-emotional goods and attachment value goods are relational goods because social capital rich relationships of trust, regard, and caring produced them (Oliver and Robison, 2017).

In contrast to relational goods, the value of commodities depends mostly on their physical properties. As such, two identical commodities are near perfect substitutes for each other because they satisfy the same physical needs. Commodities and relational goods also distinguish themselves by the needs they satisfy and the motives of those who acquire and consume them. In an effort to better define the differences between commodities and relational goods, we discuss next the most important characteristics that differentiate them.

(1). Conditions of exchange. We exchange commodities in mostly impersonal settings. Furthermore, we are not generally connected to those that produced and marketed the product. As a result, commodities have not acquired attachment value. One can think of impersonal exchanges with a vending machine, on-line purchases, self-serve gasoline stations, and ATM machines. Relational goods are exchanged in personalized settings in which either the buyer or the seller or both are known to each other or the good exchanged is associated with a social capital rich person. One can think of engaging a service person in a restaurant, dinner with friends, being part of a supporting group at a sports event, promoting a cause with other likeminded persons, and family

events that celebrate births, deaths, marriages and achievements as examples of personalized exchange conditions.,

(2). Terms and levels of exchange. The terms and levels at which commodities are exchanged are determined by the aggregate of market participants and apply generally to similar commodities. The terms and levels at which relational goods are exchanged depend on the relationships between those who consume, produce, market, and preserve the good. To illustrate, everyone who purchases gasoline at a self-service station in the same period pays the same price. The same is true for products purchased in most supermarkets. However, the price one sells a used car to a friend may be much different than the price one offers the same car to a stranger even during the same time period (Robison and Schmid, 1991)

(3) Substitutability. Commodities are standardized goods of uniform quality that make them near perfect substitutes for each other. However, commodities are typically poor substitutes for relational goods because they satisfy different needs. Flowers from an admirer do not substitute for the identical flower awarded as a door prize. A ring from a friend is not the same ring as one purchased for oneself at a jeweler. In contrast, gasoline purchased at one gasoline station is a near perfect substitute for gasoline purchased at a different gasoline station.

(4) Valuation. The value of commodities can be inferred from their (mostly) observable physical properties and the importance of the physical needs they satisfy. The value of relational goods depends in part on unobservable socio-emotional goods produced in social capital rich relationships. A baseball purchased at a sporting goods store is valued differently than the physically identical baseball hit for a home run by a famous player in an important sporting event. An item of clothing may have its value increased if it signals inclusion—but then lose value when the popularity of the group declines.

(5) Capital used in production. Manufactured, natural, human, and financial capital may all play important roles in the production of commodities. Meanwhile, the production of relational goods may require social capital in addition to the types of capital mentioned earlier. (6) Value added. We may change the value of commodities by changing their form, function, location, or other physical properties. We may alter the value of relational goods by changing their connections to people who produce, exchange, consume, or preserve them. Indeed, much of advertising involves famous people to signal their approval and connection to a particular product.

(7) Needs. Commodities satisfy mostly physical needs and wants. Relational goods satisfy mostly socio-emotional needs and wants including internal and external validation, belonging, and knowing (Maslow, 1943).

(8) Durability. Commodities are mostly nondurable goods. As a result of their short useful lives, they are not likely to become embedded with socio-emotional goods produced in social capital rich networks. The exception to this description might be when a nondurable good represents a durable brand or a repeatedly consumed good. For example, a special dessert may be a nondurable but if it is repeatedly served at special events where persons in a social capital rich network gather, it may be viewed as a relational good.

Relational goods embedded with socio-emotional goods (i.e., attachment value goods) are mostly durable goods that have become embedded with socio-emotional goods produced in social capital rich networks, often because of their extended useful lives. Indeed, connections to deceased persons may be through attachment value goods produced and used while they were alive.

(9) Certification. Commodities are most likely to have their quantity and quality certified by arm's length agencies established for that purpose. Relational goods are most likely to have their quantity and quality assured by the social capital inherent in relationships.

Motives

The five motives deduced in the social capital model and that underlie individual choice depend on physical and socio emotional needs. The motive most consistent with neoclassical utility theory is the "own consumption" motive, which posits that the primary reason people make choices is the value of the choice to that individual person (Manski, 2000). Taken to its extreme, this notion can lead to a belief in the "virtue of selfishness" (Rand, 1964). This explanation for economic transactions appears to be inconsistent with recent research that suggests that increasing income does not always lead to more subjective wellbeing (Becchetti, Pelloni, and Rossetti, 2008; Kahneman and Deaton, 2010)

The other four motives in our social capital model derive from socio-emotional needs or wants. First is our need for internal validation that motivates us to act in harmony with our ideal self or what Frank (2008) defines as our moral emotions. This motive can be considered the "self-respect" motive, and is strongly related to self-control (Battaglini, Dias, and Patacchini, 2017; Kocher et al., 2017). Our ideal self has been described as 'own social capital' and choices consistent with our ideal self are viewed as investments in own social capital. This motive may explain why we return lost wallets, do not take advantage of others even when we have opportunities to do so, make anonymous contributions, and keep the rules and our promises even when they cannot be enforced.

Second, our need for external validation motivates us to act in ways that win the "good-will" and approval of important others. We call this motive the "good-will" motive. The good will of others can be viewed as the social capital from which we receive external validation. This motive may explain why we sometimes "dress for success", attempt to impress the boss, buy

presents on special occasions for people whose good will we value, perform services when asked, and praise the success of others. More broadly, this social motive might explain why increases in cultural activities can increase the choice to purchase organic food (Agovino et al., 2017; Du et al., 2017)

Third, we consider the "belonging" motive, which motivates us to change our feelings of empathy toward other people, causes, and organizations, especially when we lack the ability or resources to change the empathetic feelings and attitudes others have toward us. In other words, this motive calls for us to increase the social capital we have for others. This third motive is firmly rooted in the tribal nature of human evaluation (Greene, 2014; Haidt, 2012). This motive may explain why we join clubs, volunteer, wear school colors at home games, or contribute to public radio.

Finally, our social capital (empathetic) connections to others internalizes their well-being motivating us to act in their interests often by sharing our resources with them. This motive referred to here as the "sharing" motive is rooted in the value of reciprocity (Becker and Clement, 2006). The sharing motive may explain why some soldiers risk their lives to rescue their comrades and why others donate blood, raise children, volunteer at relief centers, and donate to charities. It also might explain why people become unhealthy when the health status of their loved ones deteriorate (Mello and Tiongson, 2009).

Methods

To test the embeddedness of social relationships in economic transactions, we focus our empirical analysis on four separate transactions, all of which involve opportunity costs but have varying levels of commodity and relational good characteristics (see Figure 1).

| FIGURE 1 ABOUT HERE |

We selected the choice to purchase gasoline as a base for comparison since it is mostly an exchange of a commodity for money. The choice to purchase gasoline requires little or no connections between those who consume, produce, exchange, and store it. Most importantly, in most cases there is no personal exchange of relational goods between those engaged in the purchase of gasoline—just the consumer and the pump. As evidenced by the transition to self-service pumps, the transaction itself requires very little social interaction (Basker, Foster and Klimek, 2015). Because of these "commodity-like" properties of gasoline, we hypothesize that most consumers consider gasoline purchased from different stations to be nearly perfect substitutes. The motive for buying gasoline is expected to be mostly selfish, corresponding to the own consumption motive.[1]

| TABLE 1 ABOUT HERE |

In contrast to purchasing gasoline, purchasing a haircut is a deeply personalized service-based transaction making it likely that traditional neoclassical predictions about price changes might not hold (Kosonen, 2015). Furthermore, because there is some extended contact between the person providing and the person receiving the service, it is likely there will be some exchanges of relational goods in which social capital can develop. However, the relationship between the barber/stylist and customer will determine the significance of the relational transaction. In most haircutting establishments, the terms and level of trade are standard but often allow for tipping that personalizes the terms of exchange. In addition, some barbers/stylists, depending on the social capital that exists between them and their customers, provide special services not afforded causal

[1] There is, however, the potential for gasoline to become an attachment value good. For example, it is possible that an individual might choose to buy gasoline from a specific station to support a local business or because they like the people that work there.

customers. We hypothesize that the motives for buying a haircut are expected to be a mix of social capital and own consumption motives.

Many important economic transactions are nonmonetary but are likely to be deeply rooted in social capital motives. We study two such transactions. First, we studied recycling, as it requires an exchange of commodities, but recyclers are generally not monetarily compensated (Joshi et al., 2015). Nurturing prosocial behavior can lead to increases in the choice to recycle (Barile, Cullis, and Jones, 2015), which suggests that this transaction is deeply rooted in social relationships. What recyclers do receive from recycling are relational goods that depend on the social capital of those approving of and supporting the recycling efforts, including one's ideal self. For example, one may recycle anonymously by dropping off recyclables in public recycling stations at night. Alternatively, one may recycle in social setting observed by others. We hypothesize that the motives for recycling are mostly social capital focused including the self-respect, belonging, sharing and goodwill motives.

In contrast, voting does not require a direct monetary market transaction nor is there a direct exchange of commodities. While it is likely that voters consider their own rational self-interest when they cast their ballot, voters also consider heavily the social – or "expressive" - implications of their choice (Abrams, Iversen, and Soskice, 2010; Brennan and Lomasky, 1997; Caplan, 2011). Even the decision to vote is likely to be embedded in the social relationships formed by the voters (Feddersen and Sandroni, 2006), and that social image concerns are a crucial component of the decision to vote (DellaVigna et al., 2017). At times, the relational nature of voting might make electoral choices appear irrational, such as when 63.5% of Californian voters chose to ban the production of eggs from traditional chicken cages *even though* more than 90% of the eggs purchased in California came from these systems (Malone and Lusk, 2016). For our purposes, we

hypothesize that the motives most likely to be associated with voting are self-respect (doing the right thing), good will (people will approve of my taking the time to vote), and belonging (voting helps me feel included in an important public process).

Empirical Methods

Utilizing a within subjects design, our survey asked respondents to reflect on the relative importance of their motives by allocating percentage points among the five motives when engaging in buying gasoline, buying a haircut, voting, and recycling. The survey randomized both the ordering of exchanges and the ordering of the motive questions where they could allocate any amount of the 100 percentage points to a particular motive to reflect its importance but the amount allocated for all motives was required to sum to 100. Figure 2 displays an example of the choice motives questions confronted by participants.

Commented [RL1]:

| FIGURE 2 ABOUT HERE |

Commented [RL2]: Figure 1 is missing

Measuring the relative importance of motives is preferable to traditional Likert scale measures for two reasons. First, it avoids the interpersonal comparison problems because participants all have the same maximum total value to allocate. Second, because of the imposed constraint, this mechanism encourages participants to consider the tradeoffs associated with each decision motive. Table 2 describes the reasons (sometimes confused with motives) included in the survey why a person might select one of the five motives in that transactions specific context. In addition, the survey included an open response option where respondents were given the opportunity to specify motives they thought were not present in Table 2 by entering a text response.

| TABLE 2 ABOUT HERE |

The last section of the survey asked for background information about the respondents: gender, age, ethnic background, education level achieved, employment status, financial status, family structure, residence status, and membership in organizations.

Respondents were recruited via Amazon Mechanical Turk (MTurk) from October 31, 2013, to November 15, 2013. MTurk provides easy access to a large, stable, and diverse subject pool (Mason and Suri, 2012). The use of MTurk participants is well established in academic work (Dupuis, Endicott-Poposky, and Crossler, 2013). Since its development, thousands of studies have been published using data collected via MTurk (Hitlin, 2016), perhaps because the platform provides easy access to a large, stable, and diverse subject pool, and is a valid means of collecting data (Mason and Suri, 2012). Prior research suggests that MTurk samples are often preferred to alternative sampling methods (Berinsky et al, 2012) in part because MTurk participants respond to surveys more attentively than alternative panels (Hauser and Schwarz, 2016).

To test our hypothesis that the motives associated with varying economic transactions vary by nature of the good or service, we estimate a series of regression models. Of primary importance to our analysis is the comparison of the own-consumption motive to the alternative social capital motives. As such, our dependent variable $Social_i$ is 100 minus the own-consumption motive. We first estimate a regression where participant *i*'s social capital motive can be predicted by the transaction of interest:

$$(1) \qquad Social_i = \beta_0 + \beta_1 \times Haircut + \beta_2 \times Recycling + \beta_3 \times Voting + \boldsymbol{\beta X} + \varepsilon_i,$$

where $Haircut$ is a dummy variable associated with the haircut transaction, $Recycling$ is a dummy variable associated with the recycling transaction, $Voting$ is a dummy variable associated with the voting transaction, $\boldsymbol{X}$ is a vector of control variables, ε_i is a normally distributed error term, and all β_i are parameters to be estimated. The model is estimated relative to the social capital

motive associated with gasoline, as this is the economic transaction most likely to be associated with the own-consumption motive; e.g. a "pure commodity" transaction.

Results

On average, participants took 8 minutes, 33 seconds to complete the survey. Respondent demographic summary characteristics compared to the national population can be found in Table 3. The average respondent age was 35 compared to 37.8 in the U.S. population as a whole. In addition, the survey respondent's average reported income range was less that the median U.S. household income. The gender mix of survey respondents and the U.S. population was nearly equal. The percentage of Caucasian respondents was higher, nearly 80% compared to 61.3%, along with lower percentages of African American and Hispanic respondents than the national average. Additionally, the average education of survey respondents was higher than the national average; almost all respondents had a least a high school diploma compared to 86.3% of the U.S. population.

| TABLE 3 ABOUT HERE |

Figure 3 displays the means for the five studied motives.[2] As expected, the primary motive for purchasing gasoline was the own consumption motive which accounted for, on average, 86.2% of the decision. Getting a haircut was less driven by the own consumption motive (46.9% of the decision), but own consumption was significantly less important for voting (12.8%) and recycling (16.4%). Instead, the most important motives for voting and recycling were the sharing motive (44.1% and 34.2%, respectively) and the good-will motive (22.6% and 33.4%).

| FIGURE 3 ABOUT HERE |

[2] Means and standard deviations are reported in the Appendix.

Table 4 reports regression results that compare the social motives of getting a haircut, recycling, and voting to purchasing gasoline. The R-Square suggests that the within-subjects design successfully accounted for a significant portion of the between-participant variation, as including control variables did not substantially alter our findings. As anticipated, social motives were more likely to influence these decisions than that of purchasing gasoline. Social motives accounted for approximately 13.8% + 73.4% = 87.2% of the decision to vote. Similarly, 83.6% of the choice to recycle was attributable to social motives while 53.1% of the choice to get a haircut was attributable to social motives.

| TABLE 4 ABOUT HERE |

As a robustness check, we conducted exploratory factor analysis, which confirmed that there were underlying factors influencing the own consumption motive in the relational transactions. Factor patterns from exploratory factor analysis are reported in Table 5. Overall, the two factors of commodity transaction and relational transaction explained 57.7% of the variation in the own-consumption values. The factor patterns suggest that our selected products successfully fit the experimental design, and supports the notion that some economic transactions rely more on social relationships than do others. That is, plotting the factor patterns for each of the four items, the quadrant location of each of them would suggest that we studied one pure commodity (purchasing gasoline), one monetary transaction with relational aspects (purchasing a haircut), and two nonmonetary transactions with relational aspects (voting and recycling).

| TABLE 5 ABOUT HERE |

Conclusions

The evidence presented in this article suggests that neoclassical economic models would fit well when describing exchanges of commodities in a monetary market transaction, but might be misleading when applied to other economic transactions where selfish motives play a less significant role in the exchange. Furthermore, our evidence provides additional support to the notion that motives vary across exchange activities in a manner consistent with the nature of the transaction.

While this article has supported the important role of embeddedness of relationships in transactions, there are some limitations that should be considered when interpreting our results. First, our empirical findings rely on self-reported motivationswhich may be inconsistent with a person's *actual* motives. Past research conducted non hypothetical experiments when relationships influenced motives. Future research might utilize a non-hypothetical experiment where participants are confronted with commodities and relational goods. . Furthermore, there may be alternative explanations of our findings introducing omitted variable bias into our results.. By utilizing the within-subjects design, we sought to control for this concern, although the potential remains. Regardless, this article has important implications for policy. By emphasizing the important social characteristics of economic transactions, policymakers might be able to better predict outcomes and encourage prosocial behavior. As such, our findings suggest that there may be a need to reevaluate the role of social capital and relationships in economic models.

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Tables and Figures

Table 1. Properties of commodity and relational transactions associated with the purchasing of gasoline, purchasing a haircut, recycling, and voting.

Properties	Purchasing gasoline	Purchasing a haircut	Recycling	Voting
Exchange setting	Impersonal market setting.	Market setting with personalized service.	Nonmarket personalized or non-personalized setting depending on where recycling occurs.	Personalized non-market setting.
How terms and level of exchange are determined	Market determined.	Amount of tip is personally determined and depends on the customer/barber relationship.	Time, effort, and commodities spent recycling are personally determined.	Time, effort, and commodities spent voting are personally determined.
Substitutability	Near perfect substitutes exist.	One barber/stylist is not a perfect substitute for another. Depends on customer preference.	Few substitutes exist for recycling.	No good substitutes for voting.
What determines the value of the good	Depends mostly on physical properties.	Depends on physical properties and the socio-emotional goods exchanged during the service.	Depends mostly on the socio emotional goods received when recycling occurs from one's ideal self and others.	Depends mostly on the socio emotional goods received when voting occurs from one's ideal self and others.
Capital used in the productions of the good.	Mostly manufactured, natural, human, and financial capital.	Combination of manufactured, natural, human, financial capital and social capital	Combination of manufactured, natural, human, financial capital and social capital	Combination of manufactured, natural, human, financial capital but mainly social capital
How the value of the good is changed	Impersonal market forces.	Depends on exchanges of relational goods during the haircut and the quality of the haircut.	Depends on exchanges of relational goods associated with recycling.	Depends on exchanges of relational goods associated with voting.
Needs satisfied	Mostly physical transportation needs.	Mostly socio-emotional needs for internal and external validation, some belonging needs, and some physical needs associated with hair length management.	Mostly socio emotional needs for internal validation—that one is doing the right thing.	Mostly socio emotional needs for internal validation—that one is doing the right thing and external validation from approving others.
Durability	Not durable.	Limited durability—depending on hair growth rates. But the service is repeated	Mostly non-durable but frequently repeated.	Mostly non-durable but frequently repeated.
Certification	Externally regulated.	Some external regulation through inspections but customer is most often the one certifying the quality of the service.	Some external certification on what materials can be recycled but recyclers internally certify most of the recycling.	Some external certification on how to vote but most of the voting certification is internally provided.

Table 2. Motives/Reasons provided to respondents.

	Purchasing Gasoline	**Purchasing a Haircut**	**Recycling**	**Voting**
Own Consumption	To save money or time (for example, if you try to find the lowest price, if you shop at the most convenient location, or if you gain rewards points.)	I get a haircut at a place where I will save money or time. For example. I try to find the lowest price, the most convenient location, or the best value.	To make money or reduce expenses (for example, you recycle aluminum cans to earn money or to reduce waste disposal costs).	I vote to increase my income or reduce my expenses (for example, I vote because there is a potential economic benefit, such as reducing taxes or increasing government benefits).
Goodwill	I purchase gasoline where I want my friends and colleagues to see and notice me.	I get my haircut at a place where I want my friends or co-workers to see me since it improves my image or standing among them.	I recycle because of peer expectations or so that my friends and co-workers will think more highly of me.	I vote so that my friends and co-workers will think better of me.
Self-respect	To increase my self-respect by purchasing from socially or environmentally responsible companies.	I get my haircut at a given place because I feel I should; it makes me feel good about myself (for example, because of the quality of the haircut or the way I'm treated by the barber or hairdresser).	I recycle because I think it is the right thing to do and I feel better about myself when I do.	I vote because I think it is the right thing to do and I feel better about myself when I do.
Belonging	I purchase gasoline where I am more likely to run into and talk to my friends and colleagues.	I get my haircut at a place where I am more likely to encounter my friends and co-workers or where I will feel part of a larger community.	I recycle because it makes me feel like a part of a larger recycling community or effort.	I vote because it makes me feel like I am participating in something larger than myself - it makes me feel like I am part of a community.
Sharing	To support the workers and owners associated with the gas station or gas company.	I get my haircut at a given place to support the barber or hairdresser, or the company for which they work.	I recycle because I want to leave the environment in better shape for the people I care about (e.g., friends, children, grandchildren, etc.).	I vote to support people and causes that I care about, so that those people and causes may be more successful.

Table 3. Survey respondent summary statistics and the U.S. Census population

Characteristics	Sample averages	U.S. Census population 2015
Age	35.08 (average)	37.8 (median)
Median household income	$40,000 to $50,000	$55,775
White	79.9%	61.3%
African American	6.3%	13.3%
Asian	4.7%	5.6%
Hispanic	5.7%	17.6%
2 or more races	.6%	2.6%
High School Education +	99.7%	86.3%
Gender (% female)	51.3%	50.8%

Table 4. Regression Results

	Simple Model	**With Controls**
Intercept	13.822* (0.755)	10.035* (2.810)
Purchasing a Haircut	39.263* (1.328)	39.263* (1.330)
Recycling	69.803* (1.184)	69.803* (1.186)
Voting	73.375* (1.062)	73.375* (1.063)
R-Square	0.493	0.499

Notes: Dependent variable is the sum total of social motives, equaling 100 minus the own consumption motive, which has a sample mean of 59.426 and a standard deviation of 41.995. An asterisk represents statistical significance at the $\alpha = 0.05$ level. Values in parentheses are standard errors, and are clustered at the participant level. Number of participants is equal to 1,045 and the number of reported motives was 1,045 x 4 = 4,180. Controls include race, household income, education, age, gender, and number of organizations with which the participant was involved.

Table 5. Factor patterns of the own consumption motives for each relational transaction

	Commodity Transaction	Relational Transaction
Buying Gasoline	0.788	-0.056
Getting a Haircut	0.740	0.302
Recycling	-0.119	0.662
Voting	-0.132	0.761

Notes: The first latent factor (Commodity Transaction) explained 29.9% of the variation in the own consumption data, and the second latent factor (Relational Transaction) explained 27.8% of the variation in the own consumption data.

Figure 1. Experimental Design

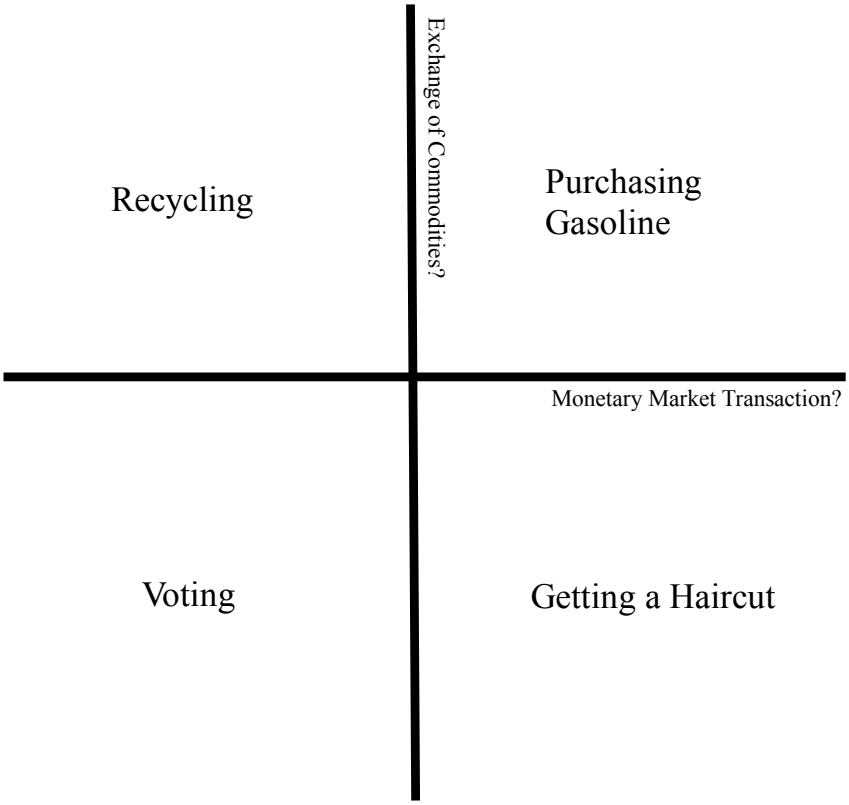
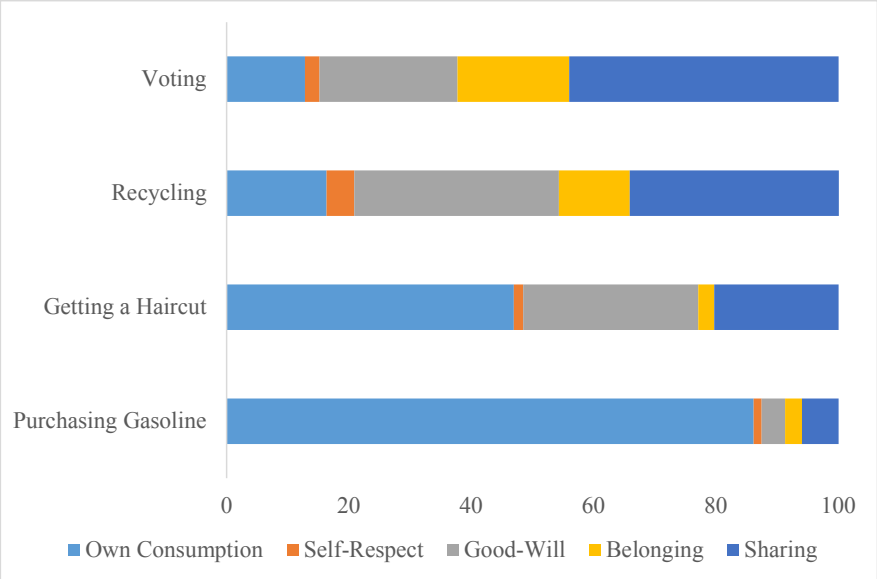


Figure 2. Example of the choice motives question

XXXXXXX

Figure 3. Average motives for each economic transaction



Appendix

Each of the 1019 survey respondents reported the relative importance of their motives for each of the four transactions by allocating 100 percentage points among the five motives.. Table A1 summarizes the reported motives of respondents when exchanging commodities (money, time, and other resources) for gasoline, a haircut, recycling services, and voting opportunities.

| TABLE A1 ABOUT HERE |

Table A1 reveals that the relative importance of the 'Own consumption' motive varies quite dramatically by activity, varying from 87% when purchasing gasoline to 13% when voting. Interestingly, gas purchase activity most nearly matched the characteristics of a commodity exchange and registered the only average 'Own consumption' motive score greater than the sum of the average social capital motives, although the haircut exchange is almost equally split. As expected, the importance of the 'Own consumption' motive decreases when exchange activities increasingly reflected the quality of relational goods.

While the tests reported in Table A1 suggest that each of the motives for each of the exchanges is non-zero (with the possible exception of the 'Good will' motive), we conduct paired t-tests using data for each participant (Nolan and Heinzen, 2015) to see if the differences in the 'Own consumption' motive across the four exchanges are significant. Table A2 presents the results of all combinations of paired t tests.

| TABLE A2 ABOUT HERE |

All tests were significant at the $\alpha = 0.01$ level, even that between the two purely social capital dependent transactions (recycling and voting). These results suggest that the 'Own consumption' motive, while not dominant in relational good choices is still a choice factor and can vary even among different relational transactions. As indicated in Table A1, but more easily seen in Table A2, there was also considerable variation in the mean differences of the pairs. For

example, gas purchases and voting had a 74.4 percentage-point difference in the allocation of the 'Own consumption' motive. These results support the view that selfish motives dominate gas purchases, but not relational exchange activities like voting and recycling. Furthermore, as the goods tended to reflect more relational transaction properties, such as voting and recycling, the difference between the average own consumption motive and other motives increased.

Table A1. A comparison of the relative importance of motives.

Motive	Mean	Standard Error	t-statistic	p-value
	Purchasing Gasoline			
Own consumption	87%	2.43	35.8	0.000
Good will	1%	0.53	1.89	0.029
Self-respect	4%	1.05	3.81	0.000
Belonging	2%	0.95	2.11	0.017
Sharing	6%	1.48	4.05	0.000
	Getting a Haircut			
Own consumption	47%	4.21	11.16	0.000
Good will	1%	0.63	1.59	0.056
Self-respect	29%	3.48	8.33	0.000
Belonging	2%	0.84	2.41	0.008
Sharing	21%	3.16	6.65	0.000
	Recycling			
Own consumption	17%	3.06	5.56	0.000
Good will	5%	1.58	3.16	0.000
Self-respect	34%	3.06	11.11	0.000
Belonging	11%	1.79	6.15	0.000
Sharing	34%	3.06	11.11	0.000
	Voting			
Own consumption	13%	2.32	5.6	0.000
Good will	2%	1.05	1.9	0.029
Self-respect	23%	2.74	8.39	0.000
Belonging	18%	2.53	7.11	0.000
Sharing	44%	3.48	12.64	0.000

Commented [RL3]: Trey—I wonder if we should include these results in the main body of the paper? They seem to really summarize the study.

Table A2. Paired T tests of mean differences in 'Own consumption' motive ratings

	Mean diff.	S.E.	T (989 df)	Sig. 2 tailed	
Gas-Hair	40.25	1.36	29.57	0.000	***
Gas-Recycle	70.38	1.21	58.40	0.000	***
Gas-Vote	74.40	1.05	70.92	0.000	***
Hair-Recycle	30.14	1.58	19.02	0.000	***
Hair-Vote	34.15	1.42	23.99	0.000	***
Recycle-Vote	4.01	1.11	3.62	0.000	***