Investigating the Role of Money: The Case of Salt Spring Dollars

by

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Abstract

This paper explores whether individuals' willingness to use the Salt Spring Dollar, a local currency, is affected their belief in associated external benfits. I analyze the responses of 50 people sampled non-randomly on Salt Spring Island. An ordered logit statistical analysis shows a positive relationship between belief in external benefits of Salt Spring Dollar use and willingness to use the currency. Through this paper, I explore the use of local currencies in the context of monetary economics. My findings suggest monetary models may need to take into account how beliefs in external benefits of local currencies factor into individuals' decision-making. This preliminary empirical study reveals the need for future research in this area.

Keywords: local currencies, monetary economics, external benefits

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An abundance of recent literature addresses the topic of local currency systems (Hallsmith & Lietaer, 2011; Pacione, 1999; Swann & Witt, 1995; Williams, 1997). Local currencies are those which have been introduced into a region where a national currency already exists. These currencies are useable only within a confined geographical space, and are managed by private organizations or municipalities. The Complementary Currency Resource Center currently lists over 200 operational local currency systems, with estimates of local currencies worldwide reaching as high as 2500 (Grover, 2006). This research paper explores the motivations behind the use of local currencies as a medium of exchange, using Salt Spring Island's local currency as a case study.

A successful currency serves three roles; it acts a: store of value, unit of account, and medium of exchange. Champ & Freeman (2001) use an overlapping generations model (OGM) to demonstrate that the introduction of a currency into a non-monetized economy increases welfare by fulfilling these roles. In this model, direct barter is not possible due to a double-coincidence of wants deficiency. It is easy to imagine a situation where a double coincidence of wants problem persists. For example, if Elmer Fudd is a farmer and has a bumper carrot year, he may be willing to trade with Bugs Bunny, a carrot enthusiast. Yet the exchange will not occur if Bugs has nothing to offer Elmer but snide remarks. Luckily, if money is introduced into the economy, Bugs can go on a comedy tour, save his earnings, and negotiate with Elmer about the relative value of their two different activities. The trade is facilitated by the introduction of a currency: since Elmer can turn around and spend the money on organic fertilizer, he is likely to agree to the exchange. Therefore, using a simple exchange between two classic cartoon characters, it can be shown that currencies allow agents to: 1) save the value of their product (by

acting as a store of value); 2) measure the product's relative value (by acting as a unit of account); and 3) indirectly meet their needs (by acting as a medium of exchange). This implies a local currency can improve welfare if it fulfills the role of money better than the national currency in a specific instance.

Using a search-theoretic framework, Colacelli and Blackburn (2009) maintain there are two reasons to introduce a local currency into an economy. The first reason is hyperinflation, or instability of the national currency. In this case, a local currency is introduced due to the inability of the national currency to serve the three purposes above. To successfully fulfill the roles of money, the local currency must be trusted to have value in the future; in order to accept the currency as payment, sellers must believe in its continual and consistent use value to purchase goods or services. Even if a local currency is not a legal tender, it may be adopted if it is trusted over the national currency to have value in the future (Curtis & Waller, 2000).

Scarcity of the national currency may also inspire the introduction of local currency (Colacelli & Blackburn, 2009). A national currency may be scarce for many different reasons, one being high unemployment. Without income, individuals will not have money with which to buy goods and services. In this case, the secondary currency can provide liquidity by acting as a medium of exchange. This occurred in the United States during the Great Depression, where "scrip" emerged as a medium of exchange in a time of poverty (Ibid.). Individuals without access to US dollars used scrip to trade with others and meet their basic needs.

The literature reveals several examples of local currencies which have been successful in filling a fracture in the role of money. The most salient example is that of the crédito, a local currency which emerged in Argentina during an economic crisis. Colacelli and Blackburn (2009) estimate, on average, crédito users earned the equivalent of $35 US dollars more per month than

similar Argentineans who did not use the crédito. This augmentation is equivalent to a 17% increase in monthly income compared to the average Argentinean (Ibid.).

In another example, Grover (2006) finds Ithaca Hours[1] help to value informal services, such as non-licensed massage therapy. In this way, Ithaca Hours can fulfill a gap in the role of money; the currency acts as a medium of exchange, store of value, and unit of account for goods and services not considered valuable in formal currency terms. According to Helleiner (2000), "local economic skills and . . . activities are thus fostered in ways that they are not in the regular economic system" (p. 38). Local Exchange and Trading Systems (LETS) also have the potential to increase welfare in this way (Schraven, 2000). By recording exchanges in terms of electronic money, a LETS may help circumvent the double coincidence of wants issue for informal goods and services. People may wish to trade these goods and services, but may not be willing or able to purchase them with an established currency[2]. Since LETS currencies have social ties, they allow favours or items to be traded amongst community members in instances where money is not considered a socially acceptable medium of exchange (e.g. for baked goods)[3]. This is not to say local currency systems are guaranteed to be welfare enhancing. Many local currency systems break down over a certain membership size (Williams, 1997), are subject to inflation (Sweeny & Sweeny, 1977), or could be used to launder money or evade taxes. The examples of the credito, the Ithaca Hour, and LETS have been included to suggest local currencies can (in theory) be welfare-enhancing if they fill a void in the role of money.

In this way, monetary theory successfully solves the puzzle of emerging local currency systems. Yet, one piece of this puzzle remains: the existence of local currencies which fulfill the role of money in the same way as the national currency. Certain local currencies are tied to and

[1] A local currency started in Ithaca, NY
[2] See WIlliams (1996) for further discussion of how Local Exchange and Trading Systems allow for trade between people who are blocked from the regular market due to unemployment, etc.
[3] See Shraven (2000) for further discussion about the economics of LETS

backed 100% by a national currency; therefore they do not have the flexibility to fill a gap in the role of money. An example of this type of local currency is the Salt Spring Dollar ($$D), the subject of this research. Since $$Ds are backed 100% by Canadian dollars, their introduction by the Salt Spring Island Monetary Foundation (SSIMF) did not, in fact, create any new money. $$Ds are also exchangeable with Canadian dollars at a ratio of 1:1 (SSIMF, 2011); therefore, $$Ds serve as a medium of exchange, store of value, or unit of account in the exact same way as Canadian dollars[4]. In fact, this currency could be welfare-restricting, because its scope as a medium of exchange is restricted to Salt Spring Island (and only those stores currently accepting it). These limitations can be applied also to the Toronto Dollar and Calgary Dollar programs, among others. Rigid currencies such as the $$D are not generally meant to replace the national currency, rather to coexist alongside of it and fill a different role (Helleiner, 2000).

This paper exploits the existence of "rigid" local currencies (which mirror the national currency in terms of the role of money) to search for a welfare-enhancing role of money beyond those outlined in monetary theory. I explore whether people are motivated to use local currencies by external benefits, besides the aforementioned roles of money. I designed and administered a survey to elicit the beliefs individuals hold about the external benefits of using $$Ds, as well as their degree of willingness to use the currency.

Supporters of local currency systems suggest the programs have multiple external benefits. If a person makes a choice which generates an external benefit, it means people beyond the decision-maker experience the resulting benefit. An example of an external benefit associated with local currency use is increased community development. If I choose to use only $$Ds, thereby supporting only local businesses, then the entire community may benefit. This and other external benefits are further explored in the following section. According to Helleiner (2000),

[4] The details of the $$D program are further discussed in Appendix A.

"local currencies are meant to promote a more localized sense of economic space, the capacity of local communities to manage money actively to serve political goals, and a more communitarian sense of identity" (p. 37). The question of whether belief in external benefits is enough to motivate use of the currency is of vital interest to practitioners of community development, who may wish to introduce local currencies to promote these benefits. As there is no quantitative research available on rigid local currencies, this work will also enrich the growing body of literature on local currency systems.

My initial survey revealed very low levels of $$D use. This is to be expected given the transaction costs associated with using a currency which limits the scope of an individual's transactions. A second survey was issued to determine the “discount threshold” necessary to induce individuals to use the currency at least once per week. Survey respondents were given a list of discounts ranging from 1-12%. They were asked to indicate if each discount level would persuade them to use $$Ds at least once per week. The level at which an individual’s answer changed from “no” to “yes” was coded as their discount threshold. I use this measure as a proxy for each person's willingness to use the currency. Those with high discount thresholds (who would require a large discount to use the currency regularly) are assumed to be less willing to use the currency.

Other survey questions were designed to capture the external benefits associated in the literature with the use of local currencies. Respondents were asked to indicate on five-point Likert items whether they believe: 1) using $$Ds is good for community development; 2) using $$Ds decreases the island’s reliance on outside sources; and 3) buying local is good for the environment. Using ordered logit, I estimated expected discount thresholds according to the respondents’ beliefs and characteristics. This gave me the relationship between belief in external benefits of $$D use and willingness to use the currency. According to standard microeconomic

theory, since these benefits are external (subject to free-riding), their existence would factor little into individuals' decision-making. Informed by this theory, I hypothesized belief in these benefits would have little effect on an individual's discount threshold.

My research reveals a positive correlation between belief in external benefits and willingness to use $$Ds. Due to time and monetary constraints, I used a convenience sampling method. This introduces a sampling bias to my analysis; therefore, the results cannot be extended to the population of interest due to the non-random nature of my data. Regardless, the strong statistical significance of my results gives an indication of what a similar analysis of a random sample would show. Only 20 out of the 70 people approached declined to fill out the survey, eliciting a response rate of 71.4%. Further research on this topic should certainly be done, as this paper shows an interesting and relevant result based on an adequate sample (50 respondents) and sound statistical methods.

The remainder of this paper first outlines relevant literature, exploring past work on dual currency regimes and summarizing the external benefits associated with local currencies as outlined in the local currency literature. Section 3 outlines the model specification I use to analyze my thesis question, while the next two sections follow with an exposition of my data and statistical methods. Section 6 presents the results of my statistical analysis. The paper concludes with a discussion of the results, some recommendations, and a revisiting of the role of money in connection to this and other economic research.

2. Review of the Literature

Although few economics scholars have published work on local currencies, many have explored the "how and why" of currency emergence. Kyotaki and Wright (1993) develop a search-theoretic model to examine why economies adopt fiat currencies. This model uses agents with heterogeneous and restricted preferences to prevent the possibility of bartering. By

introducing a double-coincidence of wants problem, fiat money can fulfill a medium of exchange role (Ibid.). The model allows researchers to determine sufficient conditions for the existence of dual currency regimes, where two currencies are used in exchange. In many dual currency economies, a foreign currency (often the US dollar) is used along with the official currency (Craig & Waller, 2000). Kyotaki and Wright's (1993) model illustrates how, even if two currencies have different rates of acceptability, both may be used if their values (what they can be used to purchase) are specialized. As described in the introduction, local currencies such as LETS and Ithaca Hours may have specialized values, being used primarily for informal goods and services. Thus, this model explains the existence of certain local currencies: these currencies coexist with more efficient currencies since they can be used to facilitate trade of goods and services not valued in terms of the official currency. In Kyotaki and Wright's (1993) model, scarcity of the primary currency is identified as the main determinant of secondary currency[5] adoption and use. The transaction cost of the secondary currency also affects its acceptability: if it is a hassle to use or store the currency, agents will be less likely to accept it as payment.

Colacelli and Blackburn (2009) use Kyotaki and Wright's (1993) model to frame their empirical analysis of the crédito, a local currency which emerged in Argentina during its 2001 recession. The empirical results support the predictions of the model: secondary currencies face higher rates of acceptability in instances of low relative transaction costs and when supply of the national currency is low (Colacelli & Blackburn, 2009). Since $$Ds only come into circulation through the removal of Canadian dollars, the model's main prediction is not relevant to this analysis. However, high transaction costs may explain low levels of use.

Craig and Waller (2000) develop a model similar to Kyotaki and Wright's (1993) to further explore dual currency economies. Their model uses differentiated transaction costs (or

[5] This could be a local currency or another country's currency as in the US dollar example given above.

benefits) of the two currencies to endogenously determine the acceptability of each. If one currency has a higher transaction cost, individuals will demand higher compensation in order to hold it (i.e. more can be bought with this currency than the alternative). Yet sellers will also demand compensation for incurring the transaction costs, and will require more of it to give up their good. If the transaction costs are sufficiently different, the currency with the higher costs will simply not be used as a medium of exchange.

This result could explain why $$Ds are largely not used. One could think of the transaction cost as the inconvenience of using $$Ds: the requirement of paying in cash versus electronically, the hassle of withdrawing $$Ds from a bank, and the restriction of only being able to use the currency at specific locations. Individuals may not be willing to incur these costs if they are not compensated in terms of the $$Ds having a higher value (e.g. discounts for using Salt Spring Dollars). Therefore, the low levels of $$D use may be explained by these transaction costs, which are not compensated for in the form of discounts. Of course, the associated transaction cost will depend on how often the individual shops at participating locations, and $$Ds are meant to induce loyalty to these producers; therefore, the transaction cost may decrease if the program succeeds in shifting buying behavior towards local producers. By nature, local currencies will always have higher transaction cost relative to the national currency, since they cannot be used outside their locality. This paper measures the relationship between perceived external benefits and willingness to use the currency to see if belief in external benefits could potentially induce use despite the transaction costs associated with local currencies.

According to Grover's (2006) study of Ithaca Hours, circulation of local currencies may be low because "individuals and businesses are being asked to support . . . public[6] benefit at

[6] Or external

economic consequence to themselves" (p. 734). This analysis is consistent with microeconomic theory: since public benefits are subject to free-riding, individuals do not optimally account for them in utility-maximizing decisions. Yet local currency systems are often implemented because of the external benefits they are believed to offer. The remainder of this section draws from current literature on local currencies to explore what these public benefits may be.

There may be benefits associated with simply introducing or holding a local currency. Jayaraman and Oak (2005) suggest the introduction of a local currency may serve to foster community identity and pride. In the case of $$Ds, holding the currency also offers benefits in the form of the interest accumulated on the reserve fund. The SSIMF (2011) asserts interest income is used to fund the $$D program, as well as "worthwhile community projects" (See Appendix A for further discussion). This section focuses on the benefits associated with the *use* of local currencies, separating them into three interconnected categories: community development, local autonomy, and environmental sustainability.

Community Development

Jayaraman and Oak (2005) are the first economists to formally explore the topic of local currencies. They develop a model in which local currencies improve welfare by solving an information failure. Their proof proceeds as follows: A firm may be able to lower their marginal cost of production through investing in a specific technology. However this investment represents a large fixed cost. The firm may be unwilling to invest if they believe there is insufficient demand to cover this cost. In this case, the firm will continue to use the less productive technology. Whether or not this is an efficient decision depends on actual demand, which may diverge from perceived demand in the absence of perfect information. If there is an information failure (if actual demand deviates from perceived demand), then, in the presence of productivity-enhancing technology, inefficiency can result. The authors argue local currency

holdings, which can be observed in the aggregate, reveal the *actual* demand for local goods to the producers. This reduces demand uncertainty, and, as a result, improves ex-ante efficiency (Ibid.).

Jayaraman and Oak (2005) assume individuals will not hold the local currency unless they are rewarded with lower prices, since it is a "dominated asset" (p. 606). Therefore, their results are contingent on firms employing a pricing strategy which decreases in demand. To accomplish this, firms are assumed to operate within a perfectly contestable market. Jayaraman and Oak argue this assumption (which denotes zero entry costs, equal access to technologies, and zero delay between market entry and production) is representative of many local good markets. In the presence of a downward sloping price expansion path, individuals will face lower prices if expected demand increases. Local currency holdings signal this increase in demand, and therefore result in lower prices. This is a very strong assumption, but the results of my research suggest it may not be necessary. The positive relationship between belief in external benefits and willingness to use the currency suggests agents may not require the incentive of lower prices to use a local currency. Jayaraman and Oak also argue their model could be extended to include many firms, as long as the demand for different local goods is correlated. Their model suggests local currencies can benefit community development through increasing efficiency, since, in the real world, firms often face imperfect information.

Grover (2006) views local currencies as adaptable economic instruments, able to promote and enhance community development. Local currencies can be a tool for inwardly-focused development policies (another example being import substitution). Policies such as these seek to promote inward investment[7], often through commercial and organizational linkages between producers. Grover argues local currencies promote localized social relations, which, in turn, help

[7] When a business invests their profits into other local businesses

local businesses compete with outside firms through information-sharing and other types of cooperation. An example of such a cooperative local economy is the region of Emilia Romagna in Italy. Emilia Romagna's productive sector consists mostly of small firms, which specialize and purchase inputs from other small firms in the area. The result is cooperative local production systems which are competitive in global markets (Restakis, 2000). In theory, a local currency could incentivize firms to purchase their inputs from other local firms, if the currency is widely circulated and costly to convert back into the national currency. At the moment, $$Ds are exchangeable at a 1:1 ratio with Canadian dollars. Although this structure may help individuals to trust the currency, it may also diminish the community development gains of implementing a local currency. If a local currency is not easily convertible (into the national currency), it can ensure "a greater proportion of local income and savings circulate within the locality to generate local work, investment and local economic development" (Pacione, 1996, p. 70).

Williams (1996) argues the prevention of income from "leaking out" of a rural community is integral for local economic development (p. 232). According to Williams' model, net income minus external spending partially determines a community's level of economic development; therefore community development depends to some degree on decreasing external spending. Following this logic, the goal of community development is highly connected to that of local autonomy or self-sufficiency.

Local Autonomy

According to Thompson (1965), a region's export capacity determines its short-term economic strength; however, local assets, such as education and worker skill level, public infrastructure, and innovation capabilities, determine prosperity in the long-run. These local assets allow for growth and adaptation. Since local currencies encourage local spending, they can, in theory, facilitate increased self-sufficiency. According to Grover (2006), a local currency

achieves this goal democratically (without the inefficiencies associated with planning and protectionism), since consumers and producers can choose whether or not to participate in the program.

The emergence of local currencies also reflects a broader movement towards localization. According to Pacione (1999) localization, as a concept, developed alongside globalization to deal with the inequalities associated with the global movement of capital. If capital can move freely (as globalization has increasingly allowed for), it will flow to where it produces the highest returns. “Globalization . . . increases the intensity and frequency of exogenously induced changes and reduces . . . the ability of local regional groups to resist and/or to act endogenously” (Gomez & Helmsing, 2008). This leaves communities vulnerable to forces beyond their control, inspiring community efforts to increase levels of self-sufficiency. Community-based initiatives, such as co-operatives, credit unions, and social businesses make up a third-sector, or social economy, in which economic interactions are embedded in social values. According to Lee et. al. (2004) local currencies can allow for value to be formed locally, according to the social context of the region.

Environmental Sustainability

Douthwaite (1996) makes a connection between economic self-reliance and environmental sustainability, arguing import/export oriented economies tend to ignore the carrying capacity of their local environment. Therefore, local currencies encourage communities to live within their ecological means. Grover (2006) writes: “In Douthwaite’s view, local currencies can help reconcile conflicting ecological and economic frameworks of action by building local monetary systems that are sensitive to (and symmetrical with) ecological limits” (p. 721).

The spatial closure aspect of local currencies is also said to decrease environmental externalities by encouraging local buying practices. Helleiner (2000) demonstrates how local currencies address the concerns of the "green" political movement[8]. According to Helleiner:

> Greens worry that people's environmental awareness and sense of responsibility is undermined as economic processes are spread out over greater distances. When unsustainable harvesting of resources or the dumping of waste takes place in locations far away, individuals are not aware—as they are in more local economies—of the environmental consequences of their consumption behavior. (pp. 39-40)

Because of the carbon emissions release when transporting goods, long-distance trade is also associated with higher levels of pollution. Greens also argue the competition associated with globally integrated economic systems forces localities to compete down environmental regulation. Greens maintain protecting and promoting local economies allows for more socially and environmentally conscious communities (Ibid.). By limiting the scale of economic activity, local currencies are meant to promote environmental sustainability.

The work of the above researchers suggests local currencies may provide welfare enhancement in the form of external benefits. The remainder of this paper investigates whether belief in these benefits factors into individuals' choices to use (or not use) $$Ds.

3. Model Specification

The search theoretic model described in the previous section demonstrates the impact of inconvenience (or transaction costs) on whether or not a currency is adopted. The model also reveals two reasons why a local currency may be adopted: scarcity or specialized use. Yet these conditions cannot explain the emergence of $$D. This rigid currency has the same characteristics

[8] Hellenier distinguishes "Greens" from the broader environmental movement. According to Hellinier, the green movement is concerned with environmental, political and social issues, concentrating on the importance of scale in social and economic interactions.

as Canadian dollars, except for the restrictions on use (the currency is only accepted at specific locations on Salt Spring Island). I use the rigid nature of $$D to test whether or not the promise of external benefits motivates the use of this currency.

Standard microeconomic theory suggests individuals will take external benefits into account only to the point where they benefit personally. An example of this is a resident who picks up trash along her street. Since the benefits of her actions are shared by all residents of the street, the choice to pick up litter generates external benefits. The individual in question may be motivated by the thought of how her actions will benefit her neighborhood. Yet economic theory suggests actions such as this will not be completed to the optimal degree, since the total sum of benefits to each person are not completely factored into the individual's decision-making process (Frank & Parker, 2004). According to Grover's (2006) study of Ithaca Hours, circulation of local currencies may be low because the cost (inconvenience) of using the currency is private, but the benefits are public.

I estimate the effect of belief in external benefits on willingness to use $$D with the following regression equation:

$$(1)\ Willingness\ to\ Use\ \$\$Ds = \beta_0 + \beta_1(Belief\ in\ External\ Benefits) + \beta_2(Inconvenience) + \beta_3(Controls)$$

where the coefficient for inconvenience is expected to be negative. In order to isolate the relationship between external benefits and willingness to use $$Ds, I control for home ownership, business ownership, and years as a resident of Salt Spring Island. These variables help to isolate the effect of believing in external benefits. As increased community development may also have a private benefit to business owners (who may experience higher profits) or homeowners (who may see their properties rise in value), it is vital to control for these variables. Longtime residents

may have a higher stake in the community, so I also control for number of years as a resident of Salt Spring Island. I also control for age and gender. Perceived inconvenience and willingness to use the currency will also be affected by how much the individual generally spends on the island, so the model controls for high proportion of spending on Salt Spring Island. $$D use will also be more inconvenient for people who do not generally pay in cash; therefore tendency to use cash is also included as a control variable.

If belief in external benefits is found to have a significant and positive effect on individuals' willingness to use $$Ds, there is an implied role for education in the promotion of local currency use. Community development practitioners who may want to encourage use of a local currency should then use public education of external benefits as a promotion tool. Of course, further empirical research is required to ensure the existence of these external benefits. Lack of a relationship between willingness and belief in external benefits would imply the need for incentives to promote local currency use.

4. Data

To test the relationship between belief in external benefits and likelihood to use $$Ds, I collected survey data from Salt Spring Island shoppers on February 11, 2012. I designed the surveys according to Dillman's (2007) tailored design method. Due to time and money constraints, I used a convenience sampling method, asking individuals to fill out the survey as they walked into a large grocery store on Salt Spring Island. This introduced a sampling bias to the data, due to the non-random nature of collection. Since the sample is non-random, results cannot be extended to the population of potential $$D users; however, I found a relationship between the variables of interest within the sample collected.

Only 20 out of the 70 people approached declined to fill out the survey, eliciting a response rate of 71.4%. I collected a sample size of 50, with 35 respondents answering the

survey in full. Survey respondents took the survey booklet, filled in their responses, then placed the survey in a container to maintain confidentiality. I assured respondents of the survey's confidentiality and anonymity, reducing the bias introduced by the presence of the researcher. Respondents gave implied consent for the use of their data by completing the survey; this was clearly explained both verbally and within the survey's letter of information.

The surveys were issued in two waves. The initial survey revealed very low levels of use (only 2/27 respondents indicated they used $$Ds at least once per month[9]). It was clear I would not be able to find a sample of currency users large enough to estimate their motivations. The low level of use suggests the currency is unsuccessful, therefore confirming the role of money as only threefold. Yet, the indication the currency was used at all warranted further inquiry. I consequently redesigned the survey to use a "discount threshold" as a proxy for the willingness to use the currency. Survey respondents were asked through a payment scale-style question the level of discount they would require to use the currency at least once per week. The question asked respondents to imagine a situation where all grocery stores on Salt Spring Island offered discounts for using $$Ds. The question included a list of discounts ranging from 1-12%. Respondents were asked to indicate if each discount level would invoke frequent $$D use (at least once per week). For each discount level (1-12%) respondents answered no, they would not use $$D once per week if this discount was offered, or yes, they would. The survey is attached in Appendix B for reference.

The first discount level at which a respondent answered yes (they would use $$D once per week if this discount was offered) was coded as their discount threshold. I use this discount threshold as a proxy for willingness to use $$D. I assume a low discount threshold corresponds

[9] In the second survey (the final data source) 5/50 respondents indicated they used $$Ds at least once per month. This number was still too low to investigate causes of variations.

with a higher willingness to use the currency; high discount thresholds correspond with a lower willingness to use the currency.

Three people indicated that they would never use Salt Spring Dollars once per week, no matter the discount. From the open-form question asking why they do not use $$Ds regularly, their reasoning can be inferred. On this question, one of the aforementioned respondents stated that they do not live on Salt Spring Island. Another indicated distrust in the issuing body. The third specified they do not use $$Ds out of habit. These answers are not included in the initial sample for analysis, an assumption which is confronted in the results section. If these answers are excluded from the sample, along with two non-responses, the mean discount threshold (for the 45 remaining respondents) was 4.44%, with a standard deviation of 3.03. This includes two more "protest-style" responses of 0%. These responses were coded as such due to the indication the respondents did not need a discount to use the currency[10].

I designed additional survey questions to capture belief in the external benefits associated in the literature with the use of local currencies. Respondents were asked to indicate on five-point Likert items[11] whether they believe: 1) using $$Ds is good for community development; 2) using $$Ds decreases the island's reliance on outside sources; and 3) buying local is good for the environment[12]. With the third statement, belief in the external benefit is measured indirectly. If buying local is perceived to be good for the environment, I assume a currency that restricts individuals to buying local will be perceived as good for the environment. From my data, I created three dummy variables (comdev_belief, aut_belief, and localenv_belief) corresponding to belief in each of these statements. Respondents who agreed or strongly agreed with the first

[10] In their paper "Protest responses in contingent valuation" Jorgensen, B.S., Syme, G.J., & Bishop, B.J. (1999) indicate that protest responses and their meanings may vary according to context and indications by respondents.
[11] Respondents chose from: 1) Strongly Disagree; 2) Disagree; 3) Neither Agree nor Disagree; 4) Agree; and 5) Strongly Agree
[12] On the first wave of surveys, question three stated: Using $$Ds increases Salt Spring Island's environmental sustainability. This question generated a lot of confusion, so was consequently replaced in the final survey.

two statements were given a value of one in the corresponding dummy variable category. For the localenv_belief dummy I only included individuals with strong belief, since 92 percent of respondents would have been given a value of one otherwise. Table 1 shows the number of respondents who indicated belief in the three external benefits.

Table 1. Number of Respondents with Belief in External Benefits of $$D Use

Dummy Variable	comdev_belief	aut_belief	localenv_sbelief
1	17	16	32
0	33	34	18
% With Belief	34%	32%	64%

Belief in the benefits of $$D use on community development (comdev_belief) was highly correlated (0.6572) with belief in the positive effect of $$D use on community autonomy (aut_belief). For these two questions, respondents answered from a scale of five (from strongly disagree to strongly agree) regarding their level of belief in the benefits of using $$Ds on community development and community autonomy. To avoid multicollinearity, I created a community benefits index by adding the scores of these two variables. Respondents with a score of at least seven out of ten on the community benefits index were given a value of one for the belief in community benefits dummy variable (comben_belief). All other respondents were given a value of zero.

Table 2 illustrates the summary statistics for the two non-binary variables included in the statistical analysis. The mean age of the sample is 51.28; this is consistent with the demography

of Salt Spring Island, where 53 percent of the population is age 50 and over[13] (Stats BC, 2010). Within the sample, the mean number of years as a Salt Spring Island resident is 13.84, with a standard deviation of 14.18. Table 3 presents the summary statistics for the binary variables I collected through the survey. The sample consists of 41 percent female respondents, whereas Salt Spring Island's population is 53 percent female[14] (Ibid.).

Table 2. Summary Statistics for Non-Binary Variables

Variable	Mean	Standard Deviation	Observations
Years as a SSI Resident	13.837	14.176	43
Age	51.28	15.792	50

As described in Section 3, I include controls for individuals who may have more stake in the community. Residents make up 94 percent of the sample, with 74 percent of respondents owning homes on the island. 36 percent of respondents indicated they owned a business on Salt Spring Island. 87.5 percent of respondents were aware of the Salt Spring Dollar program, which was described on the survey's informational letter for those who were unaware. Three respondents self-reported being members of the Sustainable Salt Spring Island Coalition (SSSIC), the group which conceptualized the $$D program (SSIMF, 2011).

Table 3 also shows the additional dummy variables created from the survey data. In order to control for differentiation in the inconvenience (or transaction costs) associated with using $$Ds, I asked respondents how often they used cash to buy their purchases. A dummy variable was created from the resulting data, indicating if the respondent used cash "Often" or "Always".

[13] According to 2006 census data

[14] Due to the non-random sampling method, it is not surprising that the sample characteristics deviate from the population characteristics.

Table 3. Summary Statistics for Binary Variables

Variable	Yes	# of Responses	Percent Yes
Resident	47	50	94%
Home Owner	37	50	74%
Business Owner	18	50	36%
Female	20	49	41%
SSSIC Member	3	49	6.12%
Awareness	42	48	87.5%
Trust in SSIMF	22	50	44%
Use Cash Often	24	50	48%
Spend mostly on SSI	31	50	62%
$$Ds are Inconvenient	21	50	42%

48 percent of respondents were given a one for the "Use Cash Often" dummy variable. The dummy variable for respondents who spend most of their money on Salt Spring Island shows 62 percent of respondents belong in this category. I created an additional dummy to indicate trust in the issuing body (the SSIMF); respondents who agreed or strongly agreed with the statement "The Salt Spring Island Monetary Foundation is a trustworthy organization" were given a one in this category. For the initial question, 58 percent of the sample responded with "neither agree nor disagree", suggesting an unfamiliarity with the organization. The dummy variable for high trust

was highly correlated with my variable of interest; therefore I removed this variable from the specification. This correlation is addressed in the results section of this paper. 41 percent of the sample agreed or strongly agreed with the statement "Using Salt Spring Dollars is inconvenient".

The following section describes the estimation method used to analyse the data I have described in this section.

5. Methodology

Since the discount threshold values are restricted to the zero-12 range, this variable classifies as a limited dependent variable (Wooldridge, 2006). Since the dependent variable is both discrete and finite, the conditional expectation will not be linear; therefore the ordinary least squares (OLS) estimators are inconsistent in this case. I use an ordered logit model to explore the relationship between an individual's belief in the external benefits of using $$Ds and the discount they require to use the currency at least once per week. The ordered logit model uses maximum likelihood estimation (MLE), finding the expectation that the dependent variable will take on a certain discrete value, conditional on the independent variables (Ibid.). Ordered logit is generally used when the dependent variable takes on categories in which order matters, but the exact values do not. I use this model to explore whether belief in external benefits predicts a lower discount threshold than disbelief. My use of ordered logit is suitable since I am not attempting to calculate the exact use-inducing discount threshold according to the measured characteristics.

Ordered logit is used for estimating ordinal and categorical variables. The model assumes the existence of an underlying latent continuous variable. Here the latent continuous variable (y_i^*) is the exact discount (for example: 5.25%) that would induce an individual to use $$Ds once per week

$$(2)\ y_i^* = \beta' \boldsymbol{x}_i + \varepsilon_i$$

Here, $\boldsymbol{x}_i$ is the set of explanatory variables and ε_i is the disturbance term. Ordered logit assumes ε_i to have a logistical distribution (mean zero, variance $\pi 2/3$)[15]. The latent variable is unobserved, whereas we do observe the discount threshold variable, which is censored at a range from zero-12. The top censoring at 12 was chosen to fit the question onto the survey page, but the range allows for analysis of low versus high discount thresholds. When answering the question, respondents choose the level (0-12%) which most closely represents their true discount threshold (the latent variable).

Ordered logit calculates the probability of the dependent variable taking on certain values (in this case 0-12), conditional on the right-hand side variables (Ibid.). In this case, the probabilities are estimated conditional on the control variables[16], as well as my binary variables of interest: comben_belief, localenv_belief, and inconv_high, which indicate belief in: 1) $$D use bringing benefit to the community; 2) the environmental benefits of buying local; and 3) the inconvenience of using $$Ds.

The ordered logit model also assumes proportional odds, meaning the odds ratio for all the categories are constant. I checked this assumption with a χ^2 test, with proportional odds as the null hypothesis. With a χ^2 of 0.9993[17], I failed to reject the null; therefore the assumption of proportional odds is met. Further, ordered logit calculates standard errors asymptotically. Since my sample size is small (37 for my preferred specification), the standard errors should be taken only as approximations. Since ordered logit does not directly calculate marginal effects, I show the marginal effects of my variables of interest on the probability of the discount threshold taking on each categorical value (0-12).

[15] This is the model's main difference from ordered probit, which assumes a normal distribution of the disturbance terms.
[16] Age, gender, number of years as a Salt Spring Island resident, high spending on island, high spending in cash, business ownership, home ownership, and SSSIC membership.
[17] This large value is most likely due to the small sample size.

6. Results

Using the above estimation strategy, I found a positive relationship between belief in external benefits and willingness to use $$Ds (as proxied by the discount threshold). Table 4 shows the raw relationship between belief in external benefits and mean discount threshold. The "Yes" group includes the individuals who were given a value of one for each dummy variable category[18]. The mean discount threshold (MDT) of those who believe in the community benefits of $$D use is 55% lower than those who do not; whereas the MDT of those who believe in the environmental benefits of buying local is 48% lower than those who did not. For both belief categories, the difference in the MDTs is statistically significant at the 5% level. Already this suggests belief in the external benefits of $$D use has a positive effect on willingness to use the currency.

Table 4. Difference in the Mean Discount Threshold According to Belief

Category	**Belief in Community Benefits**			**Belief in Environmental Benefits**		
Group	**No**	**Yes**	**All**	**No**	**Yes**	**All**
N	26	19	45	16	29	45
Mean Discount Threshold	5.231	3.368	4.444	5.625	3.793	4.444
% Difference in Means (Yes-No)	-55.31%			-48.30%		
P-value for Difference in Means	0.0405			0.0514		

As outlined in previous sections, it is important to control for differences across individuals. Table 5 shows the effect of controlling for individual characteristics. The ordered logit output gives the direction and significance of each independent variable's effect on the expected discount threshold. Moving from specification I to specification IV, the variables

[18] As described in Section 4

Table 5. Ordered Logit Output

y= Discount Threshold	I	II	III	IV
Belief in Community Benefits Dummy	-0.959 (0.619)	-.0688 (0.675)	-0.919 (0.712)	-2.135** (1.084)
Belief in Environmental Benefits Dummy	-0.796 (0.615)	-1.733** (0.730)	-2.029* (0.786)	-1.982** (0.911)
Belief in Inconvenience Dummy	0.905 (0.558)	0.715 (0.580)	0.720 (0.596)	1.201* (0.069)
SSSIC Member		2.175* (1.204)	2.187* (1.236)	3.681* (1.810)
Awareness Dummy		0.986 (0.912)	0.860 (0.936)	1.910 (1.210)
High Spending on SSI Dummy			0.567 (0.658)	1.462* (0.816)
High Cash Use Dummy			0.372 (0.669)	0.996 (0.789)
Age				-0.0475 (0.0278)
Business Owner				-0.376 (0.776)
Home Owner				-0.054 (1.194)
Female				-0.889 (0.740)
Years as a Resident				-0.005 (0.029)
Prob > χ^2	0.0306	0.0088	0.0204	0.0225
Pseudo R^2	0.0541	0.1006	0.1083	0.1723
Number of Observations	45	42	42	37

Note that in the ordered logit model coefficients are in log-odds units, and cannot be interpreted as marginal effects. This table gives the sign and significance of each variables effect on the expected value of discount threshold. Standard errors are noted in parentheses, but due to the nature of maximum likelihood estimation, these standard errors are estimated asymptotically. Since the sample size is small, these estimations should be taken only as approximations.

* Denotes significance at the 10% level
**Denotes significance at the 5% level
**Denotes significance at the 1% level

of interest become statistically significant when I add the economically significant control variables. Belief in community benefits of $$D use has a negative effect on the discount threshold, as does belief in environmental benefits of buying local. As expected, belief in inconvenience of $$Ds is seen to have a positive impact on discount threshold; an individual who perceives the currency to be inconvenient will demand a higher discount to use $$Ds once per week. Surprisingly, SSSIC membership also has a positive and significant effect on expected discount threshold. My sample only included three members of SSSIC, the organization credited with conceptualising the $$D program, but the results suggest membership has a positive impact on expected discount threshold, therefore a negative impact on willingness to use.

Table 6 decomposes the marginal effects of belief in community benefits, environmental benefits, and inconvenience on the probability of indicating each discount threshold. The value of 0.2949 in column two means this: if a respondent indicated belief in the community benefits of $$D use, their probability of choosing a discount threshold of one increases by 29.49 percentage points. The values in each of the three middle columns shows how belief changes the probability of indicating the discount threshold specified in that row. As the discount threshold values increase, we see the effect go from positive to negative for belief in external benefits. This demonstrates how belief in external benefits increases the probability of indicating a low discount threshold (0-4) and decreases the probability of indicating a high discount threshold. This is consistent with the raw differences in MDT for the two groups (belief and unbelief). As expected, belief in inconvenience decreases the probability of indicating a low discount threshold and increases the probability of indicating a high discount threshold. Again it should be noted: although these relationships hold within my sample, the results cannot be extended to the population, since I used a non-random sampling method.

Table 6. Marginal Effects on P(y=N)

N P[y=N]	**Belief in Community Benefits Dummy**	**Belief in Environmental Benefits Dummy**	**Belief in Inconvenience Dummy**	**Answers in this Category**
0 (0.00796)	0.0258 (0.0299)	0.0129 (0.0152)	-0.0099 (0.01206)	2
1 (0.13778)	0.2949* (0.1786)	0.1892 (0.0897)	-0.1401 (0 .0909)	11
2 (0.02668)	0.0342 (0.0360)	0.0298 (0.0308)	-0.0210 (0.0234)	1
3 (0.06744)	0.0650 (0.0512)	0.0666 (0.0507)	-0.0450 (0.0388)	2
4 (0.08258)	0.0471 (0 .0412)	0.0655 (0 .0520)	-0.0402 (0 .0362)	3
5 (0.49380)	-0.1879 (0.1351)	-0.0080 (0 .1199)	0.0733 (0.0806)	16
6 (0.26606)	-0.0314 (0 .0330)	-0.0298 (0.0312)	0.0202 (0.0226)	1
7 (0.02760)	-0.0355 (0 .0373)	-0.0368 (0.0386)	0.0231 (0 .0260)	1
8 (0.47697)	-0.0688 (0 .0543)	-0.0806 (0.0651)	0.0451 (0.0399)	2
10 (0.08184)	-0.1435 (0 .0927)	-0.2090 (0.1402)	0.0944 (0.0654)	6

This table shows the marginal effects of the variables of interest from specification IV in table 5. Each marginal effect is the increase in probability that y=N when the specific variable goes from 0-1. Standard errors are in brackets and have been calculated asymptotically.

To evaluate the results of my specification, I completed two robustness checks. The results of these checks are shown in Table 7. For my first check, I added in the three "no answers" I originally removed from my data set. As described in the data section, these three respondents indicated they would never use $$Ds once per week, for three separate reasons. I added these observations back into the sample, coding each discount threshold as 12 to represent

low willingness to use the currency. While belief in community benefits remains negative and statistically significant at the 5% level, belief in environmental benefits and inconvenience are both no longer statistically significant. This suggests my results for these variables are not robust, but could be attributed to my small sample size. I removed trust in the SSIMF from my original specification due to its correlation with belief in community benefits. This correlation is not surprising; it is logical to assume a person must trust the issuing body to believe using the currency will be beneficial to the community. Table 7 shows how adding trust in the SSIMF as a variable washes out the significance of belief in community benefits. This is not surprising given the correlation between the two variables. With the inclusion of trust, awareness and high spending on Salt Spring Island become statistically significant. Surprisingly, both of these variables have a positive effect on discount threshold. In the case of high spending on Salt Spring Island, I theorized this would have a negative impact on discount threshold, as the currency restrictions would be less costly for individuals who spend most of their money on the island. Awareness is also a puzzle, but could be attributed to the small sample size.

Belief in external benefits has a negative impact on discount threshold within my sample, when all economically significant variables are included in the ordered logit specification. Discount threshold is a proxy measure for willingness to use $$Ds. Individuals who indicate a low discount threshold are assumed to have a higher willingness to use the currency. Following from this assumption, belief in the external benefits of $$D increases an individual's willingness to use the currency, while belief in inconvenience decreases an individual's willingness to use the currency.

Table 7. Robustness Checks

y= Discount Threshold	IV	With Removed	Adding Trust
Belief in Community Benefits Dummy	-2.135** (1.084)	-2.024** (0.969)	-1.813 (1.150)
Belief in Environmental Benefits Dummy	-1.982** (0.911)	-1.168 (0.774)	-2.285*** (0.933)
Belief in Inconvenience Dummy	1.201* (0.069)	0.695 (0.613)	1.069 (0.690)
SSSIC Member	3.681* (1.810)	2.872* (1.551)	4.354** (2.008)
Awareness Dummy	1.910 (1.210)	1.381 (1.091)	2.045* (1.266)
High Spending on SSI Dummy	1.462* (0.816)	1.020 (0.702)	1.748** (0.872)
High Cash Use Dummy	0.996 (0.789)	0.271 (0.708)	1.065 (0.832)
Age	-0.0475 (0.0278)	-0.018 (0.024)	-0.039 (0.832)
Business Owner	-0.376 (0.776)	-0.122 (0.682)	-0.032 (0.803)
Home Owner	-0.054 (1.194)	-0.676 (1.003)	-0.408 (1.286)
Female	-0.889 (0.740)	-0.402 (0.670)	-1.040 (0.751)
Years as a Resident	-0.005 (0.029)	-0.002 (0.027)	-1.434 (0.824)
Trust SSIMF Dummy			-1.434* (0.824)
Prob > χ^2	0.0225	0.1284	0.0132
Pseudo R^2	0.1723	0.1109	0.1951
Number of Observations	37	40	37

Note that in the ordered logit model coefficients are in log-odds units, and cannot be interpreted as marginal effects. This table gives the sign and significance of each variables effect on the expected value of discount threshold. Standard errors are noted in parentheses, but due to the nature of maximum likelihood estimation, these standard errors are estimated asymptotically. Since the sample size is small, these estimations should be taken only as approximations.

* Denotes significance at the 10% level
**Denotes significance at the 5% level
**Denotes significance at the 1% level

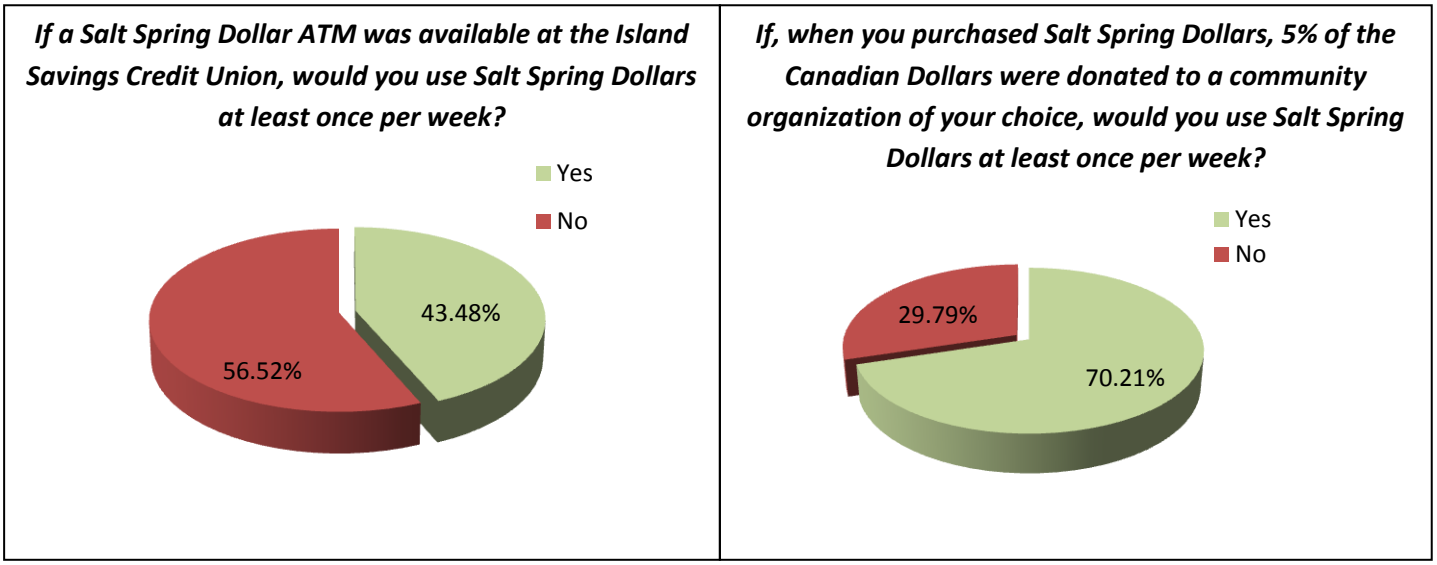
7. Discussion and Recommendations

While within my sample I found a positive relationship between belief in external benefits of $$Ds and willingness to use the currency, it is clear the currency is not widely used. Only 10% of my sample (five people) estimated they used $$Ds once or twice in a month. This is far lower than the 17 people within the sample who believe using $$Ds is good for community development. Although belief in external benefits increases respondents' willingness to use $$D, the relationship is not strong enough to induce frequent use. It could be the transaction costs (or inconvenience) of the currency is discouraging use, as Kyotaki and Wright's (1993) model predicts. Lowering the transactions costs may result in higher levels of use, as my results show perceived inconvenience lowers willingness to use $$D. The transaction costs of using $$Ds as a medium of exchange include the inconvenience of: 1) withdrawing the bills from the bank; 3) remembering to carry the cash instead of using debit or credit; and 3) not being able to use $$Ds off the island. While the SSIMF has the ability to make $$Ds more accessible, it is more difficult to affect points two and three. Local currencies will always be less convenient than the national currency, as by nature their use is restricted to a small geographical area. Yet, my results suggest belief in the external benefits of using $$Ds may encourage use, even in the presence of inconvenience.

In late 2011, the SSIMF proposed two changes to their local currency system. One was to install an $$D ATM inside one of the island's credit unions. The second change was to donate 5% of the Canadian dollars entering the reserve fund following a $$D purchase from the new ATM. When people withdraw $$Ds from the ATM, they will be able to choose the community organization receiving the 5% (M. Contardi, personal communication, November 15, 2011). To look at the effect of decreasing inconvenience versus increasing incentives, I asked respondents if the two different changes would induce them to use $$Ds at least once per week. Figure 1

shows the responses to the two separate questions. 43.48 percent of respondents indicated they would use $$Ds once per week if a $$D ATM was installed, while 70.21 percent would use the currency once per week if 5% was donated to a community organization of their choice. This suggests the response from increasing incentives would be larger than the response from decreasing inconvenience.

Figure 1. Decreasing Inconvenience vs. Increasing Incentives



The SSIMF will pay for these donations from the reserve fund, which means businesses will be charged 5% when they trade $$Ds for Canadian dollars (since the SSIMF will then only have 95 cents on reserve for every dollar in circulation). This 5% charge is an added benefit of the changes, for it incentivizes the circulation of $$Ds. If businesses are charged 5% for exchanging $$Ds, they have an incentive to spend the money instead of exchanging it. The external benefits associated with local currencies are contingent on the money staying in circulation. Since the $$D is now exchangeable at a 1:1 ratio with Canadian dollars, it is relatively easy for receivers to exchange the currency and avoid the restriction to buying local[19].

[19] Of course, there is already an opportunity cost to going to the bank and exchanging the bills, which may be high enough to keep the currency in circulation.

Since the benefits of community development, autonomy, and environmental sustainability are conditional on the assumption local currencies encourage local buying practices, the current system may not actually be promoting these external benefits.

To ensure the success of a local currency, an issuing body can work to decrease associated transaction costs and increase associated benefits. Increasing private benefits through discounts and other incentives are very likely to induce use of a local currency. Yet, in contrast to Grover's (2006) conclusions, my research suggests individuals do take external benefits into account when making the decision to use a currency. Therefore, increasing belief in the external benefits of $$Ds may result in increased use of the currency. The best way to increase belief in these benefits is to increase the benefits themselves. The 5% exchange charge to business may greatly increase the ability of $$Ds to benefit to the community through increased circulation. 5% of the Canadian dollars will be donated to community organization when a person withdraws $$Ds, and business will only be charged this amount if they exchange $$Ds back to Canadian dollars (since the reserve fund will then only have a 95% reserve ratio). Of course, the charge may cause the program to lose popularity with businesses, so the SSIMF would have to work to ensure businesses are on board with the program.

The benefits of local currencies may also be restricted in the case of $$Ds, due to the nature of commerce on the island. Most people do not have a choice but to buy local; therefore, a currency aimed at encouraging local commerce may be redundant (especially if the only people who use it would buy local regardless). Yet if the currency is passed on to retailers, the 5% charge may encourage firms to buy their inputs locally. If inputs are not available on the island but are highly demanded, input producers may migrate to the island, completing the circle of production and strengthening the local economy.

More empirical research quantifying the benefits of local currencies may also help to increase belief (although measurement of community development, etc. is inherently difficult). The SSIMF can also affect belief through educational marketing. Presently, $$Ds are marketed mostly to tourists. My research suggests advertising the community and environmental benefits of using $$Ds will greatly affect people's willingness to use the currency.

8. Conclusion

This paper presents a positive correlation between belief in the external benefits of $$Ds and willingness to use the currency. This finding has a strong implication for the issuing body: highlighting the community and environmental benefits associated with local currencies may greatly increase overall willingness to use the currency. The $$D program's benefit to the community will be far greater if the currency is kept in circulation, and this may occur if businesses are given a 5% disincentive to exchange their $$D. If $$Ds stay in circulation, community organizations benefit from the 5% discount, and the community as a whole may benefit from increased autonomy, development, and environmental sustainability.

While the relationship between belief in external benefits and willingness to use $$Ds holds within my sample of surveyed individuals, the non-random nature of the data prevents the extension of my findings beyond this paper. Regardless, the strong significance of my key variables warrants further research in this area. My findings imply individuals are affected by more than just private costs and benefits when making the choice of what currency to use. Upon further research, monetary models such as Kiyotaki & Wright's (1993) may require augmentation to account for the role external benefits play in currency choice.

Appendix A. About the Salt Spring Dollar

In 2001, the Salt Spring Island Monetary Foundation (SSIMF), a not-for profit-society, introduced Salt Spring Dollars ($$Ds) to the island. The program is permissible under Canadian law, since Revenue Canada classifies $$Ds as gift certificates. The bills also include multiple anti-counterfeiting measures. They are currently accepted by 132 businesses on the island[20], and exchangeable with Canadian dollars at a 1:1 ratio (SSIMF, 2011). There is a Canadian dollar in a reserve fund for each $$D in circulation. Since the currency is backed 100% by Canadian dollars, it is managed as a currency board. Currency boards help establish monetary credibility and eliminate inflation (Feuerstien & Grimm, 2006), important aspects to consider when introducing a local currency.

The reserve fund also accumulates interest in order to pay for the upkeep of this currency system and fund community projects (SSIMF, 2011). The program is therefore able to capture the interest from keeping Canadian dollars in the bank and trading with $$Ds. This demonstrates rate of return dominance, a classic problem in monetary theory (Bryant, 1989). The government generally captures the returns from money in circulation (ibid). The government can buy a bond from you at market value, putting, say, $10 in circulation. If you buy back the bond a year later, chances are you will have to pay more than $10, due to inflation. The difference between what you now pay and the $10 you paid the year before is the gains from inflation (seigniorage) the government gets to keep. If banks are allowed to issue bond-backed bank notes, individuals can trade with the banknotes while still collecting high interest on their bonds. In these instances, there is no reason to use government-issued currency, since banknotes offer a rate of return while the nation currency does not. For this reason, there are strict legal restrictions on issuing banknotes, since they remove the government's ability to capture gains from seigniorage (Ibid.).

[20]This number represents about 1/3 of the businesses listed under the Salt Spring Island Chamber of Commerce

In the case of Salt Spring Dollars, their legal standing as gift certificates allows the SSIMF to capture interest through the reserve fund, while not restricting trade in any way. The $$D program uses the interest payments to maintain the system and support community organizations. Therefore, if community members believe the SSIMF will do a better job with this interest than the government, they have incentive to use $$Ds over Canadian dollars, despite the inconvenience.

The SSIMF also raises money through selling the bills to tourists and currency collectors. The bills feature artwork by Salt Spring artists, and are sold online along with specially designed silver collectors' coins. In this paper, I have focused on the motivations behind the use of $$Ds; therefore ignoring the role they play as collectors' items. As of August, 2011, the SSIMF had liabilities equaling to $164,036 (SSIMF Financial Statements, 2011), implying the amount of Salt Spring Dollars in circulation (or, more likely, being held as collectors' items) exceeds $150,000.

The initial $$D bills expired after two years, losing their value if they were not exchanged for new $$Ds by the expiry date (SSIMF, 2011). In his analysis of "open-loop" gift cards (cards that can be used in any location), Horne (2007) points out that issuers rely partially on "back-end" fees (unused or expired gift cards) to raise revenues (p. 345). This was true for the SSIMF, which used the reserve funds from $$Ds taken out of circulation to fund the continuation of the system (SSIMF, 2011). Therefore, before the expiry dates were taken off the bills, a moral hazard was associated with promoting use of the dollars as, "to an open-loop issuer, the best card is the one that is never used" (Horne, 2007, p. 345). The SSIMF decided to eliminate the expiry dates due to concerns by members of the community; expiry dates on gift certificates have also since also become illegal in Canada (Ibid.).

Salt Spring Dollars as gift certificates also play a role in promoting community development on the island. If people are given $$Ds as gifts, they have to go to the island to spend the money. While economists have shown the giving of gift certificates results in deadweight loss compared to the gifting of cash (Horne, 2007), $$Ds can bring extra benefit to the Salt Spring Island economy. A person who is brought to the island in an effort to spend their gifted $$Ds may end up spending money beyond what they hold in $$Ds. The SSIMF proclaims their currency also functions as a business card (SSIMF, 2011), reminding people of the island and the many ways to spend money there.

16. **Imagine a situation where all grocery stores on Salt Spring offered discounts for using Salt Spring Dollars. For each of the values listed below, answer this question:**

If this discount was offered, would you use Salt Spring Dollars at least once per week?

Discount offered	No	Yes
1%		
2%		
3%		
4%		
5%		
6%		
7%		
8%		
9%		
10%		
11%		
12%		

17. Please fill in your age:

_____age

18. Please fill in your gender:

_____gender

Please answer either question 19 or 20:

19. If you use Salt Spring Dollars regularly, what is your main reason for doing so?

_____fill in reason

20. If not, what is your main reason for not using Salt Spring Dollars regularly?

_____fill in reason

Thank you! Please return to researcher

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1. Are you a resident of Salt Spring Island?

- ☐ No
- ☐ Yes

_____Number of years lived on Salt Spring Island

2. Do you or one of your family members own a home on Salt Spring Island?

- ☐ No
- ☐ Yes

3. Do you or one of your family members own a business on Salt Spring Island?

- ☐ No
- ☐ Yes

4. Are you a member of the Sustainable Salt Spring Island Coalition?

- ☐ No
- ☐ Yes

5. What proportion of your spending is done on Salt Spring Island?

- ☐ Over ¾
- ☐ Between ¼ and ¾
- ☐ Less than ¼

6. According to your best estimate, how many times, on average, do you use Salt Spring Dollars within a cash transaction per month?

_____Number of times Salt Spring Dollars used as cash per month

If zero: Are you aware of the existence of Salt Spring Dollars?

- ☐ No
- ☐ Yes

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Note: Since the survey was folded lengthwise, respondents would see each question in order.

7. **According to your best estimate, how often do you pay for your purchases with cash?**

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

For Questions 8-13, choose the answer which best describes your belief about the following statements:

8. **Using Salt Spring Dollars is good for community development.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

9. **Using Salt Spring Dollars helps to decrease Salt Spring Island's reliance on outside sources.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

10. **The Salt Spring Island Monetary Foundation is a trustworthy organization.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

11. **Using Salt Spring Dollars is inconvenient.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

12. **I prefer to buy local.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

13. **Buying local is good for the environment.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

14. **If a Salt Spring Dollar ATM was available at Island Savings Credit Union, would you use Salt Spring Dollars more regularly?**

- ☐ No
- ☐ Yes

If Yes: **Would you use Salt Spring Dollars at least once per week?**

- ☐ No
- ☐ Yes

Each Salt Spring Dollar is worth $1 Canadian.

15. **If, when you purchased Salt Spring Dollars, 5% of the Canadian Dollars were donated to a community organization of your choice, would you use Salt Spring Dollars more regularly?**

- ☐ No
- ☐ Yes

If Yes: **Would you use Salt Spring Dollars at least once per week?**

- ☐ No
- ☐ Yes

Please flip booklet to finish survey

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