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Marco Ranuzzini, Giovanni Gallo

LIKE A STONE THROWN INTO A POND. POVERTY CONTRAST OF AN EMPORIUM OF SOLIDARITY

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Centro di Ricerca e Documentazione "Luigi Einaudi"
Via Ponza 4, 10121 Torino
www.secondowelfare.it
info@secondowelfare.it

ABSTRACT

LIKE A STONE THROWN INTO A POND. POVERTY CONTRAST OF AN EMPORIUM OF SOLIDARITY

By Marco Ranuzzini and Giovanni Gallo

Among charitable food redistribution activities, emporia of solidarity can be considered an innovative idea in local welfare systems in Italy, since they try to meet poor households' needs in an effective way, ensuring structured food provision. In this paper we ask to what extent an emporium of solidarity affects poverty conditions of its recipients, and whether it generates net social benefits to different actors involved in a typical year of activity. In order to answer these questions, we firstly provide the impact of six social indicators on the living conditions of beneficiaries; secondly, we elaborate a social cost-benefit framework. Our case study suggests that an emporium can be efficient in term of use of resources and it can generate positive returns for the actors involved, implementing a redistribution of goods towards poor households. But the emporium significantly reduces the monetary poverty only, while it is ineffective on the severe material deprivation due to the persistence in poverty of food recipients. Hence an emporium tries to alleviate persistent hardship and creates benefits for different actors, yet making evident persistent needs, underlying the necessity for a much wider approach to poverty reduction.

Marco Ranuzzini is a civil servant in education services in a local government. He got the PhD title at the Marco Biagi Foundation, University of Modena and Reggio Emilia, and he was visiting student at the University of Trento. His research interests regard the evaluation of public policies at the local level in Italy.

Giovanni Gallo is a postdoc research fellow at the National Institute for the Analysis of Public Policies (INAPP). He got the PhD title at the Marco Biagi Foundation, University of Modena and Reggio Emilia, and he was visiting scholar at the Tilburg University and the LISER. His research fields regard the evaluation of public policies, poverty, and inequality.

Key words:
Emporium of solidarity, Social innovation, Poverty contrast, Food redistribution.

SUMMARY

LIKE A STONE THROWN INTO A POND. POVERTY CONTRAST OF AN EMPORIUM OF SOLIDARITY

1. INTRODUCTION[1]

In European countries, local governments face both tight budget constraints and an increasing pressure for social assistance by citizens in economic difficulties. Specifically, in Italy (i.e. the country where our case study is located), according to Eurostat, despite the share of people at risk of poverty or social exclusion is hugely increased from 25% to 30% in the 2009-2016 period, the public expenditure in social protection benefits only improved by 7% in terms of Euro per inhabitant in the same period. In last decades, food banks, food pantries and other forms of food redistribution increased their role of local governments' charitable partners in providing programs of last resort (distribution of food and meals) to low income families in western countries. Charitable food redistribution activity is a broad phenomenon in Europe. The Feba (European Federation of Food Banks) is the organization which supports and develops national food banks. It provided food to 6.1 million people through 37,200 local charities in 2016 (Feba 2017). In Italy, the Food Bank Foundation provided round 133 million meals to 1.6 million beneficiaries in 2016 (Fondazione Banco Alimentare 2017).

In last decades, an increasing interest has been devoted to the analysis of the real effectiveness of these programs in contrasting food poverty and material deprivation of food receivers (Bazerghi et al. 2016; McIntyre et al. 2016), and this has been accompanied by a parallel evolution of charitable food programs during years (Wakefield et al. 2013; Webb 2013). In this evolution, *Empori Solidali* (emporia of solidarity) can be considered innovative practices among charities' food redistribution programs in Italy. They look like ordinary convenience stores, but they provide benefits to households experimenting poverty and deprivation through the redistribution of donated goods and the intensive use of volunteering in a more structured way than other food programs (Maino et al. 2016). Since 2008, 178 emporia of solidarity were created in Italy, 21 in Emilia-Romagna only, with more than 5,000 volunteers and 325,000 beneficiaries involved (Caritas Italiana e CSVnet 2018).

Although projects and programs considered "social innovations" aim to improve the quality of life of individuals with new ideas which should respond to households' socio-economic needs in an effective way, much less is known as to their real impacts and efficiency. In this paper, starting from the idea that an emporium of solidarity is a local community's innovative response to socio-economic hardships of some of its members, we ask two questions. The first one investigates to what extent an emporium of

[1] This paper illustrates main results of the research project "Evaluation of the Emporium of Solidarity Portobello", commissioned to the Centre for the Analysis of Public Policy (CAPP) of the University of Modena and Reggio Emilia by *Associazione Servizi per il Volontariato di Modena* (Asvm).

solidarity affects the poverty and social exclusion conditions of its recipients; the second one wants to define the return generated by one Euro invested in this program in terms of net social benefits directed to poor households and other actors involved in a typical year of activity.

To evaluate the impact of an emporium of solidarity project on poverty conditions of its recipients, we consider the impact of six social indicators from the portfolio proposed by the Social Protection Committee (2015). In order to evaluate efficiency, we develop a social cost-benefit framework which considers benefits and costs to different actors somehow involved in the program. Finally, to illustrate the overall framework proposed, we develop an application to Portobello, one of the first and more structured emporia of solidarity in the Emilia-Romagna Region, in Italy.

The main contribution of this paper to the literature of anti-poverty policies is the elaboration of a first comprehensive framework for the evaluation of emporia of solidarity in Italy, in terms of their impacts on financial conditions of poor households; the novelty of this study consists in focusing upon evaluation tools to measure the social impact of programs which can be considered social innovation, and in revealing their true capability to contribute to the welfare of the recipient households and the society as a whole.

The rest of the paper is organized as follows. Section 2 frames emporia of solidarity into the literature of charitable food redistribution programs and in the social innovation perspective; Section 3 illustrates the specific program. Section 4 provides the empirical strategy whereas Section 5 and Section 6 provide the data and results of the analysis. Section 7 gives some concluding remarks.

2. BACKGROUND

In this work, first of all we try to evaluate the emporium impact on poverty and social exclusion conditions of beneficiary households. Traditionally, charitable food redistribution activities have been considered a contribution to the contrast of poverty, and a complement rather than a substitute to adequate public safety-nets for the poor in rich countries due to their structural limitations (Poppendieck 1998; Wakefield et al. 2013). In last decades, a large body of literature has reported critiques with reference to the more or less adequacy of these programs, considered both at the intermediate level (food banks defined as organizations gathering and redistributing food towards other organizations), and at the beneficiaries' level (food pantries, soup kitchen) (McIntyre et al. 2016; Arcuri et al. 2017).

Indeed, several studies have focused upon poverty conditions of food redistribution beneficiaries. Much of the current literature has indicated the limited capacity of food banks to improve the condition of receivers (Bazerghi et al. 2016), and their structural organizational problems (e.g. irregular donations, amount of food redistributed, number of people attended) (González-Torre et al. 2017). Despite the difficult measurement of

the concept of food insecurity (Lambie-Mumford and Dowler 2015), different authors have highlighted that societal investments in food banks have to consider that food redistribution activities ruled by charities tend to cover an ameliorative rather than a decisive role in facing food poverty (e.g. Dowler 2003; Tarasuk and Eakin 2005; Guo 2010; Tarasuk et al. 2014). As a matter of fact, organizations directly providing food (as food pantries are) tend to give priority to households in most difficult circumstances in terms of food poverty, since they deal with scarce resources (Loopstra and Tarasuk 2015), and this condition makes it difficult to meet nutritional needs of receivers (Rambeloson et al. 2008; Simmet et al. 2017a; Simmet et al. 2017b).

The recent rise of unstable working conditions among households, lower wages, and the reduction of welfare provision require a broader right-to-food approach to food insecurity with respect to fragmented local activities (Riches 2002; Riches 2011; Dowler and O'Connor 2012). In the absence of clear public policy responses to these challenges, charitable food redistribution activities in richest countries try to adapt to these societal changes and are evolving and increasing their scale (Webb 2013; Caraher and Cavicchi 2014), e.g. providing other services as nutrition-related activities, volunteering programs for beneficiaries, job-search initiatives, advisory services (e.g. Lorenz 2012; Handforth et al. 2013; Martin et al. 2013; Remley et al. 2013). Indeed, the rising presence of working poor individuals among receivers highlights the need for comprehensive investments which are different from temporary help provided by these charitable activities (Lightman et al. 2008). The idea is also to improve the social inclusion of beneficiaries, since emotional response of shame regarding the content of food parcels has also been found in traditional food pantries, representing a cost in terms of human dignity for receivers (van der Horst et al. 2014). However, in the common perception, charitable food redistribution activities are still considered milder forms of intervention, a temporary help to poor households in difficult working or financial conditions, that lasts only for a short period.

While the first part of this work focuses on beneficiary households, the second part investigates whether emporia of solidarity, which are considered "new" practice, are efficient. In Italy, they represent an attempt to go beyond the static idea of a food parcel redistributed to most deprived households. They are similar to social markets (Holweg and Lienbacher 2011), and they can be considered innovative practices among charitable food redistribution activities (Lodi Rizzini 2015; De Pieri et al. 2017; Hebinck et al. 2018). These programs are characterized by 3 main features: *(i)* they look like ordinary convenience stores; *(ii)* beneficiaries can choose between a wide variety of goods for free (up to a fixed amount); *(iii)* there is a connection between public institutions, donors of food and charities which enables the continuous provision of food and the correct targeting of beneficiaries.

Emporia of solidarity show distinctive features of social innovations, conceived as new ideas which can improve the quality of life (e.g. material wellbeing) of individuals (Pol and Ville 2009). First of all, key characteristics of these programs are the importance

of territorial specificity and the regular mobilization of local actors, since a central role is attributed to civil society (Moulaert et al. 2005; Moulaert et al. 2013). As in the case of social markets, benefits of the program are directed towards food receivers and cooperating partners (donating companies) and the retail format is comparable to a supermarket (Holweg and Lienbacher 2011). With respect to traditional forms of charitable food assistance, emporia of solidarity represent also an attempt to better tailor aid to the needs of beneficiaries, to optimize surplus food recovery and to ensure food provision in a more structured way (Hebinck et al. 2018). Target group consists of households that face different conditions of poverty and deprivation, entailing in this way a multidimensional understanding of poverty (Oosterlynck et al. 2013).

Public and non-profit organizations are key actors. On the one side, a local non-profit organization manages the emporium's daily activities involving his own staff, volunteers and private donors, and then contributing to the creation of social relations in a social economy perspective (Gerometta et al. 2005; Moulaert and Ailenei 2005). On the other side, in order to promote effective programs, the public sector supports emporia of solidarity through the activation and coordination of the different actors in the local welfare system (Andreotti et al. 2012). Hence, the local government contributes to the funding of the program, and to the correct targeting of beneficiaries, who usually can stay in the program for limited periods of time.

The above-mentioned features of an emporium of solidarity can be embedded in a bottom-up approach to social innovation, which underlines the community-based and participatory nature of these programs (Moulaert 2010). However, social innovation is conceived as a quasi-concept (Jenson and Harrisson 2013), and shows different understandings in the literature and in its empirical connotation. The concept can comprehend ideas and solutions which are able to solve a social problem in a most effective or efficient way than existing ones (Phills et al. 2008). Indeed, from this point of view, social innovations can be considered a part of necessary adjustment to social protection systems, in order to assure their efficiency and sustainability over time (Sabato et al. 2015). Hence, the development of emporia of solidarity as more structured forms of charitable food redistribution is in line with the rising idea of a new set of services which should meet households' socio-economic needs in a cost-efficient way (Bepa 2010). The framing of emporia of solidarity within social innovation can be a starting point in order to assess these projects in two directions. First of all, their effectiveness in improving the living conditions of poor households. Secondly, broadening the area of analysis, the assessment of their efficiency in creating benefits to all the different actors involved in these programs[2]. Indeed, looking at the Italian case,

[2] In recent years, an increasing part of the literature has investigated one side of these benefits, i.e. the positive economic and environmental benefits of food rescue activities (e.g. Cicatiello et al. 2016; Fusion Project 2015; Reynolds et al. 2015).

there is still little evidence on the impacts of these programs on the different actors involved (Santini and Cavicchi 2014; Baglioni et al. 2017; Vittuari et al. 2017).

3. THE PROGRAM

Portobello is an emporium of solidarity founded in 2013 in the municipality of Modena, Emilia-Romagna Region, in northern Italy. It is an initiative organized by more than 23 charities, and benefited from financial aid and in-kind donations of more than 50 partners composed by local enterprises and institutions during years. In the whole structure, the pivotal role is played by a non-profit organization, which acts as a hybrid organization able to create relationships with for-profit sector (donors), the emporium's clients (beneficiaries), the volunteers involved, and the public sector (municipality) (Rovati and Pesenti 2015; Baglioni et al. 2017). Portobello is not a provider of street-level emergency food with precarious organizational capacity (Eisinger 2002); at the opposite, it is a structured project which passed through different years of start-up and planning. In fact, more than 4,800 individuals belonging to about 1,300 different households benefited from the access to Portobello in its five years of operation.

In line with other food redistribution programs, beneficiaries are resident households who face several forms of socio-economic difficulty (Rovati and Pesenti 2015). The most significant requirements are: on the one hand, a household disposable income greater than zero; on the other hand, having at least one household member in condition of unemployment or precarious working conditions. The potential eligible households apply to local social services, and are subsequently directed to the emporium of solidarity, where they receive a number of points (charged in a family card) depending on the household's dimension. A single person receives 60 points per month, whereas households with two or more components receive an increasing number of monthly shopping points as follows: *(i)* 2 members, 90; *(ii)* 3 members, 120; *(iii)* 4 members, 140; *(iv)* 5 members or more, 160. The access to Portobello is 6-month long, but it can be renewed by social services for further 6 months after a detachment period. The parallelism between a convenience store and the emporium of solidarity begins after the access: Portobello presents shopping carts, shelves, and a wide variety of goods which, after the "client" free choice, are paid through a system of points at the cash register. The program attempts to remove (or at least reduce) the potential stigma through a friendly environment, where people should feel themselves more socially included. Volunteers perform all operational tasks: they are store's managers, warehouse workers, communication and IT systems administrators. They receive no wages and no refunds[3]. In the emporium, the necessary refrigeration and storage of food is ensured by adequate infrastructures. In conclusion, Portobello's main objectives

[3] With the exception of a reduced form of reimbursement of telephone expenses to volunteers who cover a store management position.

consist in increasing the purchasing power of beneficiary households, in promoting activities of volunteering in the whole community, and in the rescue of food from waste.

4. EMPIRICAL STRATEGY

In this section, we proceed as follows. Starting from an emporium of solidarity main beneficiaries, we use a complete set of social indicators in order to assess the economic impacts of the program on households experimenting poverty, deprivation or precarious working conditions. Subsequently, in a broader perspective, all other actors are considered. An explorative monetization of benefits and costs includes the economic evaluation of goods received by households, the quantification of volunteer work, and finally the correct evaluation of other financial costs. In this case, we broaden our perspective focusing on the actors with a relevant standing in the program: poor beneficiaries of the emporium, volunteers and donors.

4.1. A focus on poverty conditions: the use of social indicators

To evaluate the impact of an emporium of solidarity on the living conditions of its recipients, we consider six social indicators from the portfolio proposed by the Social Protection Committee (2015). In particular, we examine the mean household disposable and equivalized income, and the Europe2020's four indicators: at-risk-of-poverty (Arop) rate, (quasi-)joblessness rate, severe material deprivation rate, and at-risk-of-poverty-or-social-exclusion (Arope) rate. The Arop rate consists of a simple headcount ratio where the 60% of the national equivalized median income represents the income poverty threshold.[4] According to Eurostat, the Italian poverty threshold in 2016 is equal to 9,748 Euros. The (quasi-)joblessness rate consists of the share of population aged 0-59 living in households with very low work intensity (i.e. on average, household members aged 18-59 work less than 20% of their total work potential). The severe material deprivation rate represents the share of the population living in households who cannot afford at least four items out of the following list of nine: *(i)* face unexpected expenses; *(ii)* afford a one week annual holiday away from home; *(iii)* avoid arrears (mortgage or rent, utility bills or hire purchase instalments); *(iv)* afford a meal with meat, chicken, fish or vegetarian equivalent every second day; *(v)* afford keeping home adequately warm; *(vi)* have a washing machine; *(vii)* have a colour Tv; *(viii)* have a telephone; *(ix)* have access to a personal car. Finally, the Arope rate is a combination of the previous three indicators representing the share of population that reports at least

[4] Following the EU agreed standards, we adopt as income definition the total household equivalised disposable income, where the equivalence scale is the modified-Oecd scale. It gives a value of 1 to the household head, 0.5 and 0.3 to each additional adult and child (less than 14 years of age), respectively.

one of the following conditions: Arop, (quasi-)joblessness, or severely materially deprived.

To obtain a correct assessment of an emporium's impact on poverty and living conditions of its recipients, we should compare values of the outcome variables (e.g. Arop rate, mean household income) reported by them with those that they would have reported if they had not been beneficiaries of the emporium. The latter term of comparison is naturally impossible to know, and it is commonly called "counterfactual". One way to solve (or at least reduce) this issue would be interviewing each recipient household twice: before and after the emporium attendance or in two different moments during the benefit period. Nevertheless, we discard this method because of the lack of available data on these program's beneficiaries, which could be very expensive both in terms of time and money on a single project. Moreover, local analysis (as the one presented here) may be exposed heavily to a further common issue in panel data: the attrition, i.e. the fact that interviewed people stop being available during a survey held in the medium-long period reducing the sample and potentially biasing its representativeness.

We therefore decide to adopt a two-step estimation strategy of the emporium effects. First, we make a comparison of the above-mentioned social indicators between new-entry recipients with those who have been "treated" for a longer time. The core idea of this strategy is that recipient households stayed longer in Portobello (e.g. five or six months) are more likely to receive (or at least perceive) benefits related to the emporium rather than those who are recipients from one month only. Although we compare groups of different households, this evaluation analysis is as reliable as a panel data one, provided that these groups are very similar to each other in the observed demographic and economic characteristics (Deaton 1997). Second, we develop an OLS estimation of the emporium attendance months (i.e. the treatment intensity) on the social indicators, also controlling for relevant socio-economic characteristics of recipients. The latter allows for estimating, *ceteris paribus*, the emporium effect on recipients' well-being.

4.2. Assessing efficiency and equity: a social cost-benefit perspective

In a social innovation perspective, the alternative option to the emporium of solidarity is the do-nothing option, since the program is built on an innovative cooperation between a local community's different actors. Therefore, the program is effective if it generates positive net benefits to society in a given year. For this reason, benefits to the target group of poor beneficiaries, to other agents involved in the program and to society as a whole should exceed the financial and societal costs of the program. Equation 1 presents this framework, analyzing the increase in welfare (W) produced in a given year.

$$W = B_b * w_b + (B_v + B_d) * w_{nb} - C_b * w_b - (C_v + C_s) * w_{nb} > 0 \qquad (1)$$

The emporium collects goods and redistributes them in a defined place. These goods enter in our analysis both as costs and then as benefits. In the absence of a correct willingness to pay measure, the market value of goods redistributed is a proxy for the market's clients augmented purchasing power in a given year and represents the main benefit to beneficiaries (B_b). We then consider the main goal of the emporium in contrasting poverty, multiplying the value of goods by a factor representing the share of poor beneficiaries (Wodon et al. 2013a; Wodon et al. 2013b). The same market value of goods is on the costs side. This variable is composed by the opportunity cost of goods donated (shadow price), which is a fraction of their full market value, since we assume that, if not provided to the emporium, a percentage of donated goods would have been treated as waste. Therefore, we give a value of zero to the fraction of goods deriving from recovery activity of the emporium (e.g. food close to expiration date, minor quality deficiencies, damaged packaging). On the cost side we computed also the financial cost of goods directly bought by the emporium. Volunteers working in the program face benefits and costs which should be valued (Brown 1999; Handy and Mook 2011; Salamon et al. 2011). On the costs side (C_v), information on direct costs (e.g. out of pocket expenses) to each volunteer are collected through ad hoc surveys. Considering indirect costs, the opportunity cost of volunteers is the value of their alternative forgone activities. Since we know that Portobello's volunteers are mostly adult individuals who would be in any case engaged in other volunteer activity or in informal care at home, we use as a proxy the net wage rate used in Italy as the payment of mini-jobs in different sectors. Considering benefits (B_v), a relevant strand of literature has focused on positive impacts of volunteer work (e.g. Wilson and Musick 1999; Meier and Stutzer 2008). The contingent evaluation approach asks directly to volunteers the quantification of the benefits they receive, and can be used as a proxy for volunteers' benefits (Handy and Srinivasan 2004).

Finally, donors of goods may receive benefits in the form of tax subsidies, but in a social cost-benefit analysis they are netted out. Moreover, food industry weights costs and benefits related to donations (e.g. savings in terms of disposal costs, storage, reputation) (Garrone et al. 2014; Vlaholias et al. 2015). We express benefits to donors (B_d), as the operating margin that donating firms would have obtained through the sale of donated goods in the market, computed by multiplying the average Ros ratio of the donating firms by the volume of goods donated in 2016. This proxy is a lower bound estimate of donors' benefits, since benefits such as reputation or pro-environmental behavior are quite difficult to monetize. For the same reason, it does not comprehend benefits to money donors. Costs to the rest of society (C_s) comprehend the above-mentioned diversion of goods from final consumers and other program's financial administrative costs, and also transportation costs of beneficiaries are computed (C_b).

Equation 1 contains also distributional weights (w_b and w_{nb}), which are numbers that adjust the economic evaluation of benefits and costs and are used to reflect the value

placed by society on them (Brent 2013). The main efficiency-driven cost-benefit analysis framework adopts unitary distributional weight for all social groups involved. In this case, the main program's goal is only to achieve benefits larger than costs in a given year, and it does not matter who receive the benefits and who pays the costs ($w_b = w_{nb} = 1$). On the other end, emporia of solidarity have a redistribution goal. This equity goal can be highlighted through the use of distributional weights greater than one for beneficiaries. In Equation 1, this second case implies that $w_b > 1$, while $w_{nb} = 1$. Net benefits increase due to the increasing weight given to the value of goods redistributed to beneficiaries, emphasizing the main objective of the program.

5. DATA COLLECTION AND INSIGHTS ABOUT THE PROGRAM

The analysis is based on data from both administrative sources and *ad hoc* surveys. As for the administrative data, they refer to Portobello's information system and its budget. The emporium information system contains information about all purchase transactions made by each recipient household. In this way, we are able to find out the quantity and typology of goods redistributed to beneficiaries, as well as the points used and their overall consumption preferences and habits. We quantify the market value of goods redistributed by multiplying those quantities by the market price of goods in 2016[5]. The information system also collects data on goods transitions in and out of the emporium to other organizations, while the budget provides staff costs and other management costs.

However, the available administrative data do not contain all information we need to evaluate the project, especially the ones on living conditions of recipients and those regarding volunteers' costs. For this reason, we develop two surveys: one involving beneficiary households and another one involving Portobello's volunteers. The first survey, based on Papi (Paper and Pencil Interviewing) interviews[6], concerns 135 out of 324 households attending Portobello between March and May 2017. The aim of this survey consists of capturing demographic characteristics of recipient households and their components, their economic and health conditions, their degree of project satisfaction, and the perceived effect of the emporium on their household well-being. Since we do not have a census but just a sample, to deal with its potential unrepresentativeness of the total population of recipients, we apply individual sample

[5] The market price of goods, referred to the Municipality of Modena, was based on data from the archive of the Observatory for Prices and Rates, belonging to the Ministry of Economic Development.

[6] In order to easily involve recipient households, interviews were made at the same emporium during the opening hours, in an isolated but comfortable room (i.e. the room where lessons, advisory meetings, and other supporting services are provided). With the help of organizers, interviewers asked for the availability of beneficiaries to the brief interview before they started shopping. Some interviews were made before the shopping and some others just after it, but we did not take account of that. However, we think this aspect should not influence the reliability of our data and thus our final results.

weights on all descriptive statistics reported. The second survey, based on online-form interviews, involved 67 out of 121 volunteers working in the social market with different tasks. More details on the survey and weighting procedures are available upon request to the authors[7].

Table 1 shows socio-demographic characteristics of the first survey's sample.

Table 1. Sample observations by individual and household characteristics.

Characteristics	*Observations*	*%*
Gender		
Male	260	48.9%
Female	272	51.1%
Age group		
Age 0-17	216	40.6%
Age 18-49	230	43.2%
Age 50 or more	86	16.2%
Citizenship		
Local	230	43.3%
Foreign	302	56.7%
Education level		
Primary educ. or lower	212	39.9%
Secondary education	192	36.1%
Tertiary educ. or higher	128	24.0%
Occupational status		
Employed	89	16.7%
Unemployed	129	24.3%
Student	151	28.3%
Inactive	163	30.7%
Household size		
Three members or lower	134	25.2%
Four members	139	26.1%
Five members	116	21.8%
Six members or more	143	26.9%
Number of individuals	**532**	
Number of households	**135**	

Source: authors' elaboration.

Portobello's recipients are quite balanced between males and females, whereas the emporium clearly appears to be attended by households with a lot of children: minors represent 40.6% of the total sample and about the half of recipients live in households with five members or more. Table 1 reports that most of recipients are foreign citizens, emphasizing their worse economic and living conditions with respect to the local ones. Despite 24.0% of recipients have a tertiary education or higher, only 16.7% of them are employed and about one out of four is unemployed. As expected, given the great

[7] Interviews were collected by the author and 3 colleagues; the research team also developed the questionnaire.

household size reported on average by Portobello's recipients in our sample, Table 2 highlights that 42 households out of 135 have the highest number of monthly points (i.e. 160) to do their grocery shopping. At the opposite, only 15 recipient households (11% of the total sample) have 60 points per month to spend to the emporium.

As for the emporium attendance months of interviewed households, Table 2 points out that about 37% of households in the sample were at their first month of access in Portobello at the moment of the interview, while 29 households out of 135 have already attended the emporium for five or six months. The distribution of recipient households by shopping points classes is quite similar among the four groups by attendance months, except for the fact that those attending the emporium for three months or lower tend to belong on average to the two lower points classes. However, these differences are not statistically significant at 5% level. Table 3 shows the monetized amount of goods redistributed by Portobello in 2016, year of reference of our cost-benefit assessment. Healthy food is a definition provided by program's administrators. The idea is to promote healthier diets by directing beneficiaries' purchases towards foods which represent basic requirements for a balanced diet: fruits and vegetables, rice, bread and pasta, milk, meat.

Table 2. Recipient households in the sample, by monthly shopping points.

Monthly points	***Number of months in Portobello***				
	1	**2 - 3**	**4**	**5 - 6**	**Total**
60	5	7	2	1	15
90	8	4	1	6	20
120	12	3	3	4	22
140	14	7	8	7	36
160	10	11	10	11	42
Total	**50**	**32**	**24**	**29**	**135**

Source: authors' elaboration.

The wide range of goods redistributed in Portobello is exemplified by the "other food" category, which contains, among other things, sweets, snacks, pizza, energy drinks. The choice of these products is possible in Portobello, but it is discouraged by program administrators, because they "cost more" in the mechanism of internal "prices" reflected in the system of points which each family can use on a monthly basis. Table 3 illustrates Portobello's positive externalities in terms of food recovery. A high quantity of goods (36.9% of the total redistribution) is redistributed not to direct beneficiaries, but to other charities in Emilia-Romagna Region. The distribution of goods in the emporium guarantees at least part of the monthly coverage of beneficiaries' food expenses. In these statistics, the starting point of our calculation is the conversion of monthly shopping points into Euros. Monetary estimates on households' monthly expenses are based on the Household Budget Survey (Istat). Households' "expenses" in Portobello are compared to expenses for households in absolute poverty in Emilia-

Romagna, considering the number of components and the gender of the households' head. Table 4 shows the estimated coverage of Portobello and interviewees' perceived coverage by program's attendance months. The total coverage considers not only food expenses, but also expenses in other categories shown in Table 3 and provided by the emporium.

Table 3. Goods redistributed in 2016 by category, in percentages and Euros.

Categories	***Goods redistributed to Portobello's beneficiaries***		***Goods redistributed to other charities***	
	%	**Euros**	**%**	**Euros**
Healthy food	66.9%	235,170	63.0%	138,044
Other food categories	16.9%	88,819	30.2%	65,662
Other products (mainly for children)	3.8%	27,155	0.9%	3,356
House cleaning or personal hygiene	12.0%	36,752	4.9%	19,846
Other	0.4%	2,835	1.0%	1,761
Total	**100.0**	**390,731**	**100.0**	**228,669**

Source: authors' elaboration.

On average, Portobello covers 41.4% of food expenses, while the remaining part is satisfied by other means by households. This coverage is higher if we consider beneficiaries' perception (50.5%). Estimated coverage and perceived coverage are not stable, but they increase with emporium's attendance. Food coverage increases from 37.5% in the first month to 45.1% in the last two months, whereas perceived coverage has a lower increase. If we now consider the two accesses to the program, the coverage increases in the second round. This increase may be explained by the fact that households understand better the points mechanism of the emporium in the second round, or it can be due to a lower households' income in the second access.

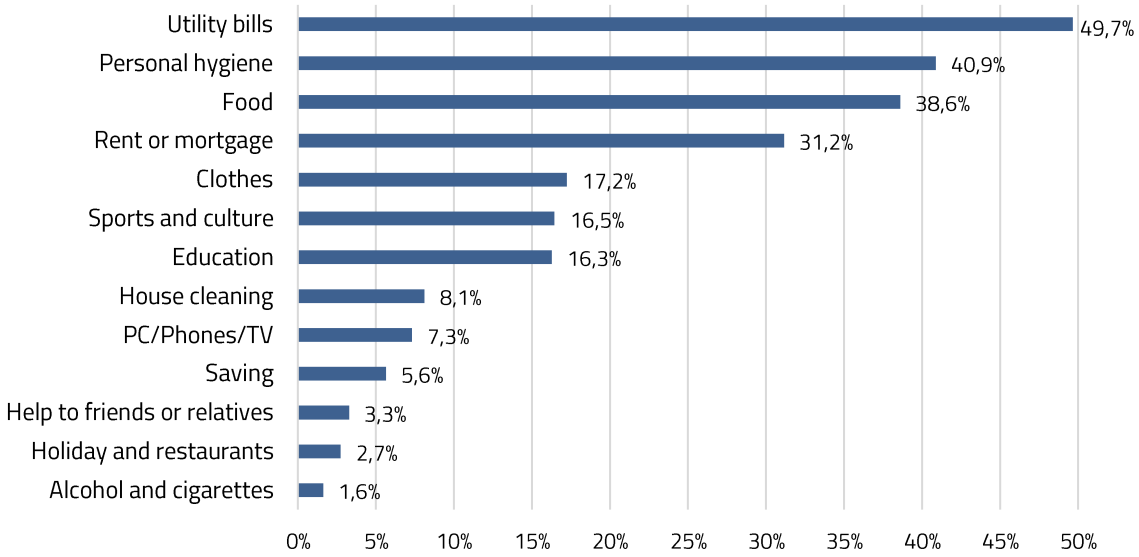
Table 4. Estimated and perceived coverage of food expenses and total expenses, by month and access.

Months attendance and number of accesses	***Estimated food expenses coverage (%)***	***Perceived food expenses coverage (%)***	***Estimated total coverage (%)***
1 month	37.7%	48.6%	36.7%
2-3 months	43.5%	49.8%	41.0%
4 months	42.4%	52.1%	40.9%
5-6 months	45.1%	52.8%	42.0%
1° access	38.2%	47.3%	36.7%
2° access	46.4%	55.3%	44.0%
Total	**41.4%**	**50.5%**	**39.6%**

Source: authors' elaboration

So, if the emporium increases the households' purchasing power, savings generated by the emporium can be used in other ways. Figure 1 shows that 49.7% of the households had the chance to pay utility bills (arrears), and 31.2% used the increased purchasing power for rent or mortgage. Moreover, one family out of three could increase its hygiene expenses, and one out of six declared major expenses destined to education, sports or cultural expenses. Solely 1.6% declared an increased in consumption of cigarettes or alcohol.

Figure 1. Use of the increased purchasing power generated by the emporium.



Source: authors' elaboration.

Finally, we asked beneficiaries about their subjective well-being in order to gain a comprehensive picture of their living conditions. Table 5 provides perception indicators. The number of households' heads declaring to feel often sad increases with emporium's attendance, and the number of households' heads declaring to feel calm decreases. While perceived health report a U-shaped trend, the perception of the economic stability points out an opposite and temporary hump.

Table 5. Economic and subjective well-being of households' heads, by attendance month

Months in the emporium	***How often are you sad?***	***How often do you feel calm?***	***Perceived health***	***Economic stability (not running out of money in the month)***
	(1-5)	**(1-5)**	**(1-5)**	**(1-5)**
1 month	2.9	2.9	3.0	2.3
2-3 months	3.3	2.5	3.0	2.3
4 months	3.1	2.7	2.8	2.7
5-6 months	3.5	2.4	3.0	2.2
Total	**3.2**	**2.7**	**3.0**	**2.4**

Source: authors' elaboration.

Although evidences highlighted by Table 5, the program is far to be defined not successful for two main reasons. First of all, it is likely that households staying longer in the program suffer a persistence of economic distress or at least a more severe one, and this may worsen subjective well-being indicators. Secondly, descriptive statistics reported in Table 5 do not allow for any causal interpretation but a simple remark.

6. RESULTS

6.1. Emporium effects on living conditions of recipients

Table 6 shows poverty and social exclusion indicators described in Section 4.1 among Portobello's recipients by the number of months in the emporium. The most common typology of poverty among recipients is clearly the monetary one. Beneficiaries of the emporium dispose on average of a total household income lower than 900 Euros per month (400 Euros if we equivalize incomes for the household size), and most of them live below the national poverty threshold as reported by the Arop rate. The living conditions of recipients seem to "improve" looking at the (quasi-)joblessness and the severe material deprivation rates, however they are about threefold the ones we see at national level. Finally, the global indicator of poverty and social exclusion (i.e. the Arope rate) leads to state that 95% of recipient households present at least one poverty type, emphasizing the severe economic vulnerability of those attending the emporium under evaluation.

Table 6. Poverty and social exclusion conditions of recipients, by emporium attendance month.

Months in the emporium	***Mean household income***	***Mean household equivalized income***	***Arop rate***	***(Quasi-) Joblessness rate***	***Severe material deprivation rate***	***Arope rate***
	Euro	**Euro (eq.)**	**%**	**%**	**%**	**%**
One month	10,864.8	4,857.4	91.5%	38.9%	32.0%	97.5%
Two-three months	12,057.6	4,803.0	77.3%	39.6%	40.8%	92.7%
Four months	12,375.7	5,194.2	84.7%	26.2%	33.8%	94.0%
Five-six months	11,994.7	5,074.1	80.9%	27.1%	49.3%	95.6%
Total	11,673.2	4,964.7	84.5%	33.7%	38.5%	95.3%
National statistics	**34,288.8**	**18,285.8**	**20.6%**	**12.8%**	**12.1%**	**30.0%**

Source: authors' elaboration.

Interpreting the emporium attendance months as a measure of the treatment intensity, Table 6 highlights that Portobello determines an increase of the mean disposable income of recipient households. In fact, the Arop rate is 91.5% among those attending the emporium from one month only (i.e. the new-entry ones), while it is equal to 80.9% among those who are beneficiaries from more than four months. Since the (quasi-)joblessness rate decreases as well the more the attendance months are, this

income increase may be due to a better occupational condition of recipients. However, it is not possible with the available data to find a straightforward causal relationship between the emporium and the higher employment activation of its recipients.

Nonetheless, the effect of the emporium on the material deprivation condition of its beneficiaries is less clear and even misleading, given that it seems that Portobello increases the severe material deprivation rate over time. The worse material deprivation condition is mainly due to the beneficiaries' difficulties to repay their debts (e.g. bills, rent, mortgage installments) in time, and to cope with an unexpected expense of about 800 Euros with own resources. Therefore, it is plausible that this evidence is linked to a state of persistence in poverty condition, rather than to a temporary one, against which the emporium of solidarity appears to be ineffective. The material deprivation increase explains why the Arope rate declines from 98% to 94% when comparing new-entry recipients with those who attend the emporium from four months, but then it rises again to 96% among households attending from five or six months.

Table 7. Emporium effect on social indicators, OLS estimation results.

Regressors	***AROP rate***	***(Quasi-) Joblessness rate***	***Severe material deprivation rate***	***Arope rate***
Two-three months	-0.180***	-0.005	0.097	-0.049**
Four months	-0.083*	-0.098*	0.002	-0.030
Five-six months	-0.106***	-0.072	0.173***	-0.011
Male	0.013	-0.045	0.035	-0.004
Age	-0.004	0.009**	0.005	0.002
Age^2	0.000	-0.000*	-0.000	-0.000
Local citizen	0.035	-0.002	-0.167***	-0.074***
Secondary education	0.082	-0.053	-0.048	0.011
Tertiary educ. or higher	0.040	-0.165**	-0.048	-0.013
Four members	-0.030	0.031	-0.096	-0.070*
Five members	0.080	-0.131	-0.139	0.004
Six members or more	0.039	-0.104	-0.065	-0.006
At least one employed	0.110***	-	-0.014	-0.057***
At least one unemployed	0.112***	0.371***	0.007	0.050***
Observations	**532**	**532**	**532**	**532**
Pseudo-R2	**0.097**	**0.139**	**0.046**	**0.181**

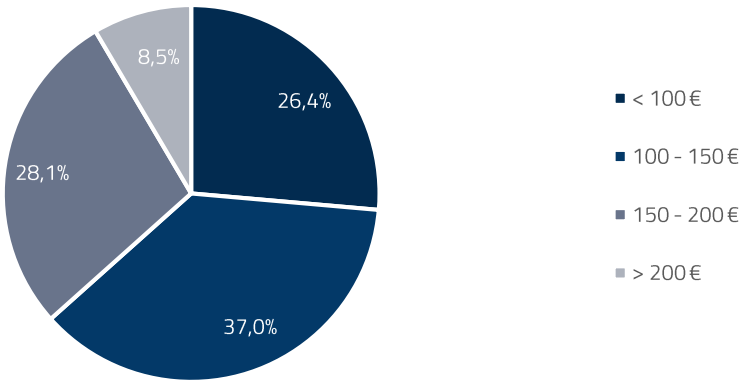
Source: authors' elaboration.
*Notes: Robust standard errors and individual sample weights are considered in the estimation; *** p<0.01, ** p<0.05, * p<0.1.*

However, recipients belonging to the four groups of emporium attendance months may be different for some individual or household characteristics, thus leading to a biased effect of Portobello on social indicators. To introduce a more reliable *ceteris paribus* scenario, Table 7 reports results of an OLS estimation on the four Eurostat's poverty indicators. Table 7 overall confirms preliminary evidences observed in Table 6: the longer the "treatment" span (i.e. emporium attendance months) the greater the

Portobello's effect on both the Arop rate and the (quasi-)joblessness one, despite in the last case the effect is less significant. Also, Table 7 shows that the severe material deprivation rate significantly increases for recipients having access to the emporium from five months onwards, supporting the belief that it is more related to the persistence in a poverty condition. As a result, the emporium effect on the Arope rate is negative and significant only for those in Portobello for two-three months at the moment of the interview.

Although the emporium project does not provide a direct cash transfer to the recipient households, it determines an increase in their purchasing power through the shopping points. As said before, the shopping points are monthly charged for all the six months of the emporium attendance and they depend on the household size. So, the annual household income should also include a conversion in Euros of the total amount of points spent in Portobello during the access period. We calculate this new income component of recipient households through a matching between the Portobello's information system and the Archive of the Observatory for Prices and Rates provided by the Ministry of Economic Development. In particular, for each good in the emporium, we match its price in shopping points to its real price in Euros. Results of this matching show that Portobello overall increases the purchasing power recorded by the recipient households of 802 Euros on average, thus about 134 Euros for each month of attendance.

Figure 2. Distribution of the monthly increase of purchasing power produced by Portobello.



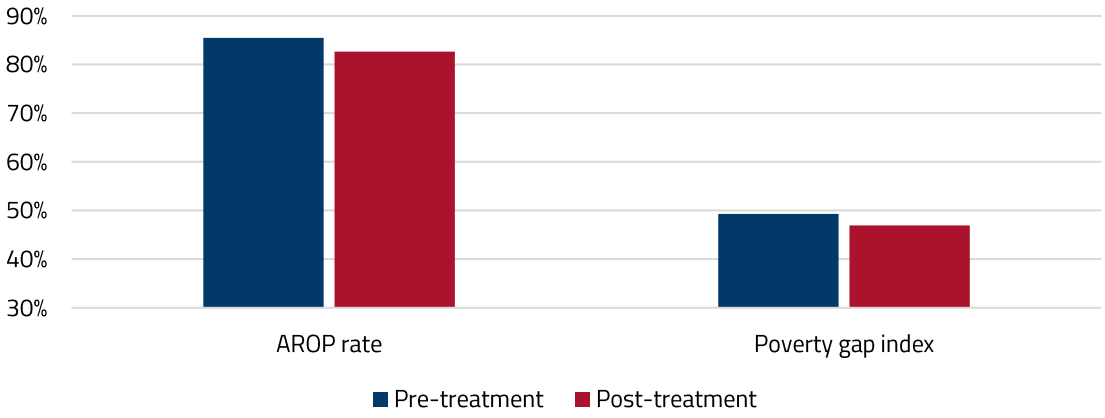
Source: authors' elaboration.

Figure 2 illustrates the distribution of the estimated increase in purchasing power of recipients. Only 26% of households report a purchasing power increase less than 100 Euros per month, while it is between 100 and 200 Euros for 65% of the sample of recipients, and it is even above 200 Euros for 9% of them.

The income increase determined by the emporium has, of course, a potential impact on the poverty conditions of recipient households. We evaluate here this effect through two poverty indicators: the Arop rate, and the poverty gap index. The latter consists of the ratio of the poverty gap to the poverty line, calculated on average among the recipients. For each household, the poverty gap is equal to the difference between the poverty line and its income if poor, and 0 otherwise. As before, the poverty line is equal to the Italian poverty threshold in 2016 (i.e. 9,748 Euros). The Arop rate gives an information on the incidence of poverty in our sample, while the poverty gap index provides the intensity of poverty and so the "degree of poverty" of poor recipient households.

Figure 3 shows that, when the estimated increase of purchasing power is included in the household income of recipients, Portobello determines a small reduction of both the incidence and intensity of poverty among the beneficiaries. In fact, the Arop rate goes from 85.5% to 82.6% and the poverty gap index decreases from 49.3% to 46.9%. Despite the absolute variation reported by the two poverty indicators is pretty similar, the reduction of the poverty gap index is greater in relative terms, pointing out that the emporium is more effective in helping recipients to get closer to the poverty line than transiting them out of poverty.

Figure 3. Emporium effect on the incidence and intensity of poverty.



Source: authors' elaboration.

6.2. Efficiency or equity? Evaluating net benefits

Table 8 shows costs and benefits related to Portobello referring to 2016 for groups with standing in the project described in Section 4, and the relative benefit-cost ratio. Assuming unitary weights ($w_b = w_{nb} = 1$), hence weighting in the same way benefits and costs to all the groups, the program is efficient, but benefits slightly exceed costs (benefit-cost ratio is almost equal to 1). In this perspective, 1 Euro invested in a given

year does not seem to give a greater return, and the emporium covers a pure redistributive role of goods within society.

Benefits to beneficiaries are the sum of the two distinct values of Table 3, with a correction based on estimations of Table 6, since we assume a value of 0.95 for the share of food received by poor households (Arope of 95%). We interviewed warehouse volunteers in order to quantify the recovery activity of Portobello. This emporium activity is important, but the majority of donations is in a good state, and we assumed that 80% of them could easily be sold in ordinary stores as an alternative to the emporium. Hence the value of goods is replicated on the cost side (shadow price) as the sum of opportunity costs of donations (multiplied by 0.80) and direct purchases by the emporium (11,447 Euros in 2016).

Table 8. Social cost-benefit framework applied to Portobello, in Euros.

		$w_b = w_{nb} = 1$	w_b=2,9 and $w_{nb} = 1$
Benefits	*Goods redistributed to social market beneficiaries*	371,194	1,076,464
	Goods redistributed to other emporia or charities	217,236	629,983
	Benefits to beneficiaries	**588,430**	**1,706,447**
	Benefits to volunteers	**296,921**	**296,921**
	Benefits to donors	**13,375**	**13,375**
	Total benefits	***898,726***	***2,016,743***
Costs	*Shadow price of goods redistributed*	497,809	497,809
	Administrative costs	81,913	81,913
	Public funding	23,121	23,121
	Private monetary donations	10,686	10,686
	Comprehensive costs to society	**613,529**	**613,529**
	Volunteers direct and indirect costs	**146,382**	**146,382**
	Costs to beneficiaries	**34,499**	**96,770**
	Total costs	***794,410***	***856,681***
	Benefit-Cost Ratio	***1.1***	***2.4***

Source: authors' elaboration.

Information on benefits and costs to volunteers were elicited from our sample of convenience. Direct and indirect costs have been attributed to the 72 volunteers who accomplished the core tasks in the emporium in 2016 (i.e. store managers, warehouse workers, shop assistants, customer service). The average value of out of pocket expenses (50.5 Euros per volunteer in the sample) where considered as direct costs. The 19,032 hours of volunteer work were valued at 7.5 Euros per hour using the above-mentioned opportunity cost approach (indirect costs). Considering benefits, we asked

to volunteers the comprehensive estimation in terms of personal satisfaction for each hour of their time donated to the emporium. Average estimates were obtained with the same approach for both volunteers who were also beneficiaries and those who were not[8]. The overall average hourly value was 19.8 Euros, but we computed averages for different tasks and multiplied by the total hours of work, as Table 9 shows. This attempt of quantification shows the value in terms of net benefits of a labor-intensive activity provided by these volunteers, who guarantee 3 weekly openings of the emporium during the whole year.

Table 9. Contingent evaluation estimates of benefits to volunteers, by task.

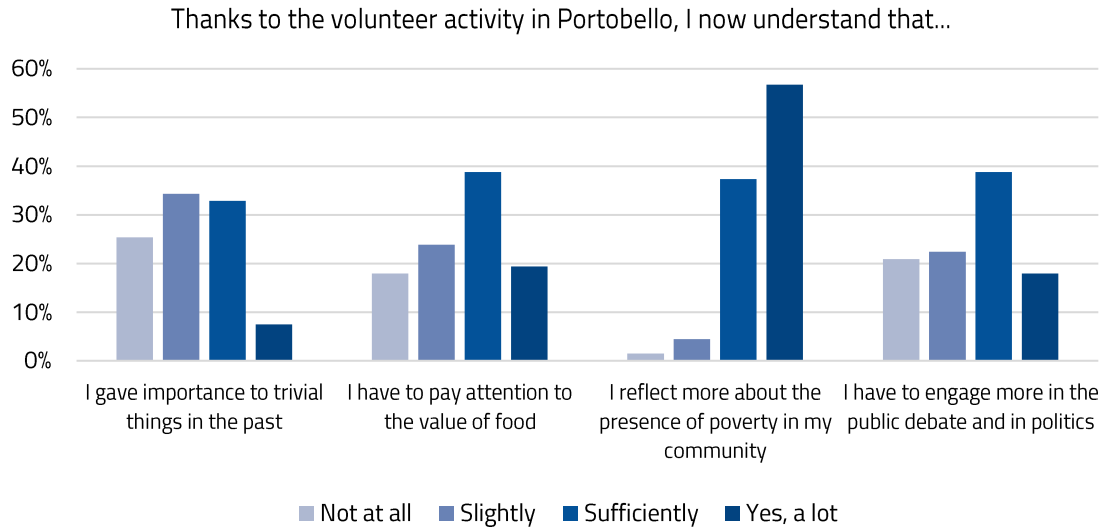
Variables	***Hourly average contingent eval. estimates per volunteer (€)***	***Total volunteer hours donated per year***	***Contingent eval. estimate per year (€)***
Store Management	13.75	1,560	21,450
Collection of goods and contact with donors	7.50	4,680	35,100
Warehouse, Logistic, Transports	21.36	1,560	33,327
Shelves procurement and assistance to clients	15.46	7,280	112,560
Cashiers	23.75	1,456	34,580
Customer service and contacts with social services	24.00	2,496	59,904
Total	**19.80**	**19,032**	**296,921**

Source: authors' elaboration.

Figure 4 graphically shows the idea that Portobello provides different kinds of benefits to volunteers, at least with reference to their perceptions. We asked volunteers to express judgements about a list of sentences which described some possible effects of Portobello on their perception of their reality. The answers could range from "Not at all" to "Yes, a lot". From the graph below we can see that volunteers recognize the activity in Portobello "sufficiently" improved their perception about: the importance of things and food; the presence of poverty in the community; the importance to engage in the public debate. However, it is interesting the reaction to the sentence: *"I now understand that… I must reflect about the presence of poverty"*, since the enhanced consciousness about poverty is one of the main effects of the emporium on volunteers (in this case, 56.7% of volunteers answered "Yes, a lot").

[8] We assume that there is no reason to value in a different way benefits to volunteers who are also beneficiaries, with respect to other volunteers.

Figure 4. Emporium effects on volunteers' perceptions.



Source: authors' elaboration.

Going back to cost-benefit analysis of Table 8, we now turn to other costs. Considering financial costs, administrative costs comprehend wages of nonprofit staff, and social services employees who assure the correct targeting of beneficiaries, and other recurrent costs. Yearly monetary donations are considered as the cost to private donors, whereas the public funds provided by the local municipalities are also considered a cost from the societal point of view. Transportation costs to beneficiaries are monetized through the value of round-trip travel estimates.[9] Benefits to donors were valued through the average Ros rate (2.2%) computed for the firms that where partner in the program in 2016, multiplied by the total value of donations.

The main equity objective of Portobello can be ascertained by weighting more benefits and costs to beneficiaries ($w_b \neq w_{nb}$ in Equation 1). Distributional weights referring to poor individuals can be obtained as the ratio of the median disposable household income to the disposable household income of a poor (HM Treasury 2003). In this way, a distributional weight of 2.9 was estimated for at risk of poverty households in the North of Italy[10]. Using distributional weights, the right column of Table 8 shows a benefits-costs ratio equal to 2.4. One Euro invested in Portobello in 2016 had a return of at least 2 in the same year.

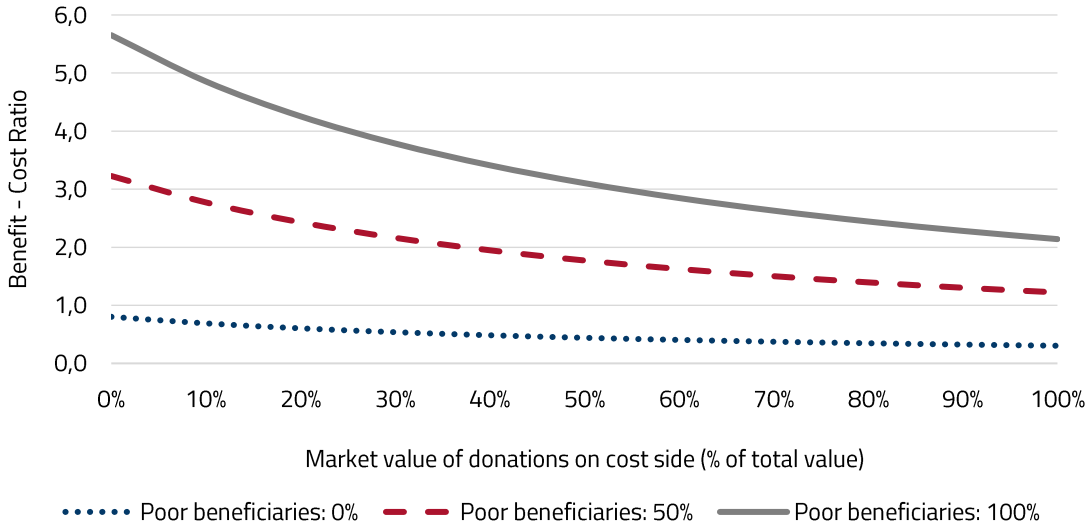
The reproduction of the market value of goods on both side of Table 8 highlights the idea that donations have a cost greater than zero to society. The quantification of

[9] 0.4€/km for average roundtrips of 5 km by car.
[10] First estimates are based on It-Silc 2014 data.

opportunity costs in addition to pure financial costs gives a better comprehensive picture of the societal investment in the project in each year (financial costs represents just the 15% of total costs). The efficiency and distributional effectiveness of the program is guaranteed by the fact that beneficiaries are poor households (correct targeting), there is a positive activity of food recovery, there are low program's financial costs, and positive benefits to volunteers.

Figure 5 shows the relationship between the benefit-cost ratio (distributional weights applied), and different values of two variables of the analysis. The first one is the percentage of poor households that receives the goods from the emporium. Since the main goal of the program is to provide purchasing power to people in condition of poverty, different values can be a proxy for the effectiveness of the emporium, i.e. its capacity to redistribute goods to poor households reducing the leakage of resources towards non-poor. The second variable considered is the opportunity cost of donations. The higher this value (represented by the percentage of the market value of the whole donations in a given year), the higher the shadow price. As we explained in Section 4.2, the lower is the percentage of this value on the costs side, the higher is the fraction of goods which the emporium is able to recover from waste.

Figure 5. Benefit-cost ratio per percentages of poor beneficiaries and different food recovery levels.



Source: authors' elaboration.

As the figure shows, an emporium can be inefficient (benefit-cost ratio less than 1) if it fails to reach people in poverty conditions (0% of poor households among beneficiaries). The benefit-cost ratio is the highest (more than 5) in the extreme hypothetical case where the market value of goods on the cost side is zero (the emporium redistributes only food recovered from waste), and only poor people are reached by the program (perfect targeting). If the emporium can reach only 50% of poor households, and the recovery activity is zero, the benefit-cost ratio is almost equal to 1

(it reaches the efficiency goal since benefits are greater than costs, but the redistribution goal towards the poor and the recovery of food from waste is not completely reached).

7. CONCLUDING REMARKS

The idea behind some definitions of social innovation is that the quality of life of individuals can be improved with new ideas and services which should respond to households' socio-economic needs in an effective way, through the mobilization of various actors in local welfare systems. In this paper, we conducted an exploratory analysis of an emporium of solidarity, which emerged as an innovative form of charitable food redistribution activity in Italy in recent years, since it tries to better tailor aid to the need of beneficiaries and ensure food provision in a structured way. The purpose of the current study was to analyze monetary impacts and efficiency of this program, considering poverty conditions of recipients. The investigation of living conditions of the emporium's beneficiaries shows that 95% of them present at least one type of poverty, emphasizing their severe economic vulnerability. Using the emporium attendance months as a measure of the treatment intensity, our results highlight that the emporium significantly reduces the monetary poverty only, while it is ineffective on the severe material deprivation due to the persistence in poverty of recipients.

Considering the cost-benefit framework, our study shows that both the financial costs and opportunity costs of the activity have to be considered, and benefits should be monetized for all the principal actors involved (i.e. poor households, donors, volunteers). An emporium can be efficient in the use of resources and it can generate positive net benefits, implementing a redistribution of resources towards poor households. In a given year, returns are significant if the emporium is effective in targeting the poor, and if volunteers receive net benefits from the activity. Moreover, results point out that the greater the recovery activity of food from waste, the greater the emporium returns.

In conclusion, empirical findings of our case study confirm previous literature which characterized charitable food redistribution activities as temporary help for receivers, although, in a social innovation perspective, the efforts of different actors of a local welfare system in redistributing resources towards the poor can be sustainable from an economic point of view. Therefore, as our title suggests, emporia of solidarity are forms of social innovation which, at the same time, try to alleviate persistent hardships, and try to create wider circles of benefits to different actors, yet making evident persistent needs, and underlining the necessity of a much wider approach to poverty reduction. As our findings suggest, the emporium's strengths which can support local welfare systems are: the creation of social value and social inclusion, and the incidence on beneficiaries' poverty condition. In this sense, considering policy implications, we think that emporia of solidarity should be integrated with minimum income schemes developed in Italy in recent years. More specifically, the integration between social services and non-profit

organizations responsible for the emporia of solidarity, can be a valid support to the elaboration of the activation projects for the minimum income's beneficiaries.

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CONTATTI

Percorsi di secondo welfare

Torino
Centro di Ricerca e Documentazione “Luigi Einaudi”
Via Ponza 4, 10121 Torino

Milano
Università degli Studi di Milano
Dipartimento di Scienze Sociali e Politiche
Via Conservatorio 7, 20122

www.secondowelfare.it • info@secondowelfare.it

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