

Monetary and symbolic rewards:

Do they matter for fostering co-commissioning and co-delivery of public services?

Abstract

Using a between-subject online survey experiment conducted in Italy, this article investigates the impact of monetary and symbolic rewards on the willingness of citizens to co-deliver and co-commissioning public services, and the extent to which service salience moderates this relationship. The results show that both monetary and symbolic rewards have a positive impact on co-commissioning, but no significant effects on co-delivery. Moreover, service salience positively moderates the relationship between rewards and co-commissioning. The results suggest that public managers should select rewards in light of the specific coproduction activities and people's perceptions of service salience.

Introduction

All around the world, public service professionals are experimenting with new service provision mechanisms that respond to growing demands for public services, fiscal constraints, complex social problems, and the evolution citizen roles in governance (Thomas 2013). Coproduction is one such mechanism. Coproduction is “an umbrella concept that captures a wide variety of activities that can occur in any phase of the public service cycle and in which state actors and lay actors work together to produce benefits” (Nabatchi, Sancino, and Sicilia 2017, 769). The concept has seen a resurgence of popularity in the public administration field in recent years, spawning a tremendous amount of research (e.g., Verschuere, Brandsen, and Pestoff 2012; Osborne and Strokosch 2013; Parrado et al. 2013; Fledderus et al. 2014;

Voorberg, Bekkers, and Tummers 2015; Brandsen and Honingh 2016; Nabatchi and Amsler 2016; Riccucci, Van Ryzin, and Li 2016; Van Eijk and Steen 2016; Bovaird and Loeffler 2017; Nabatchi, Sancino, and Sicilia 2017; Brandsen, Steen, and Verschuere 2018; Cepiku et al. 2020).

Within the coproduction research, one stream has focused specifically on the factors that enable and constrain the engagement of lay actors or citizens. Specifically, studies suggest that the the willingness of citizens to coproduce is affected by several factors, including demographic and socio-economic characteristics (Christensen and Laegreid 2005; Parrado et al. 2013; Bovaird et al. 2015; Alford and Yates 2016; Riccucci et al. 2016; Van Ryzin et al. 2017), socio-psychological characteristics (trust and self-efficacy) (Parrado et al. 2013; Bovaird et al. 2015; Fledderus et al. 2015; Alford and Yates 2016; Thomsen 2017), resource availability (knowledge, skills, and material resources) (Levine and Fisher 1984; Jakobsen 2013).

More recently, scholars have begun to investigate the material and non-material incentives that motivate citizens to participate in coproduction (e.g., Alford 2009; Voorberg et al. 2018). However, many of these empirical studies rely on case study evidence and provide conflicting results. Moreover, they do not take into account variations in coproduction across the different phases of the service cycle (i.e., commissioning, design, delivery, and assessment (Nabatchi, Sancino, and Sicilia 2017; Loeffler and Bovaird 2021)).

Our study seeks to address these issues and add to the growing body of knowledge about incentives and coproduction. Specifically, we use a between-subject online survey experiment to investigate whether and under what circumstances monetary and symbolic rewards increase citizens' willingness to coproduce. In doing so, we extend previous research (e.g., by Voorberg et al. 2018) in several ways. Specifically, we investigate both monetary and non-monetary rewards, examine whether the effect of different extrinsic rewards varies across

types of coproduction, including co-commissioning vs. co-delivery and substitute vs. additive co-delivery, and measure the moderating effect of “service salience” on extrinsic rewards. The article begins by providing theoretical background and presenting the hypotheses. It then describes the methods, data, and results. Finally, the article offers a discussion and some concluding remarks.

Theoretical background

Definitions and typologies of coproduction

While once more narrowly defined, growing interest in coproduction over the last decade has resulted in an expansion of the term. Today, coproduction is used as “an umbrella concept that captures a wide variety of activities that can occur in any phase of the public service cycle and in which state actors and lay actors work together to produce benefits” (Nabatchi, Sancino, and Sicilia. 2017, p. 769; see also Brandsen and Honing 2016; Loeffler and Board, 2021). While the breadth of this definition suggests that “coproduction is a provocative concept with high generalizability” (Nabatchi, Sancino, and Sicilia 2017, p. 768), it also requires scholars to specify the particular variety or application of coproduction under investigation to better build generalizable knowledge.

In defining our application of coproduction, we draw on a typology of coproduction, as well as on distinctions between substitutive and additive coproduction. First, Nabatchi, Sancino, and Sicilia (2017) propose a typology that outlines variations based on the two components in the term “coproduction.” They specify three levels on the “co” side: individual, group, and collective. In individual coproduction, a state actor works directly with a client or customer. In group coproduction, a state actor works with several clients or customers. In collective coproduction, a state actor works with citizens (who could be service users and/or volunteers) to generate social benefits for a wider public. On the “production” side, they

identified the four stages of the public service cycle: commissioning, design, delivery, and assessment (Nabatchi, Sancino, and Sicilia 2017; see also OECD 2001; Bovaird and Loeffler 2013). Co-commissioning refers to “activities aimed at strategically identifying and prioritizing needed public services, outcomes, and users” (Nabatchi et al. 2017, p. 771). Co-design is the incorporation of “users and their communities into the creation, planning, or arrangements of public services” (Nabatchi et al. 2017, p. 772; see also Bovaird and Loeffler 2012, p. 9). Co-delivery is “joint activities between state and lay actors that are used to directly provide public services and/or to improve the provision of public services,” and co-assessment is the (joint) “monitoring and evaluation of public services” (Nabatchi, Sancino, and Sicilia 2017, p. 772).

Second, some scholars distinguish between substitutive and additive coproduction (e.g., Loeffler 2009). Substitutive coproduction entails “replacing local government inputs by inputs from users/communities,” while additive coproduction implies “adding more user/community inputs to professional inputs” (Loeffler 2009, p. 5). This distinction is important, particularly for the delivery stage of public services, as it calls into question issues about the perimeter and role of the State and its relationships with civil society (e.g., Sancino 2016; Brandsen et al. 2017).

Based on the above considerations, this study centers on collective coproduction – the involvement of citizens in producing “goods whose benefits may be enjoyed by the entire community” (Brudney and England 1983, p. 64) – in both the co-commissioning (strategic planning of services) and co-delivery (direct provision of services) phases of the public service cycle. These two phases of the public service cycle are particularly important and highly popular in the public sector context (Bovaird et al. 2017; Nabatchi, Sancino, and Sicilia 2017; Loeffler and Bovaird 2018; Bromley by Bow 2019; Loeffler and Bovaird 2019; Escobar, 2021; Ongaro, Mititelu, and Sancino 2021): co-commissioning has a strategic valence as it entails decisions on the priorities to which to allocate public resources, while co-delivery directly

impacts on the extension of services provided and on the experience of final users. Moreover, within the collective co-delivery application, this study examines both substitutive (i.e., replacement) and additive (i.e., supplementary) activities.

This exploration of three applications of coproduction – collective co-commissioning, collective substitutive co-delivery, and collective additive co-delivery – is an advancement on previous research in at least two ways. First, previous research has tended to focus on a single application of coproduction in one phase of the service cycle. Second, while scholars have conceptually distinguished between substitutive and additive coproduction, we are unaware of empirical research examining whether citizens' willingness to coproduce changes depending on these variations. In contrast, our focus on three applications of coproduction allows us to examine whether citizens' willingness to coproduce varies across two phases of the service cycle, as well as across substitutive and additive coproduction. In the next section, we explore the theory behind citizens' willingness to coproduce.

Motivators of coproduction

Both practitioners and scholars are interested in what motivates lay actors (citizens) to coproduce (Alford 2009). For practitioners, such knowledge is important for designing coproduction and activating participation. For scholars, such knowledge is crucial for building theory and providing practical advice. Research has explored a number of factors that shape the willingness of people to coproduce. However, much of this research has focused on factors that are beyond the control of practitioners, such as demographic and socio-economic characteristics (Christensen and Laegreid 2005; Parrado et al. 2013; Bovaird et al. 2015; Alford and Yates 2016; Riccucci et al. 2016; Van Ryzin et al. 2017), socio-psychological characteristics (e.g., trust and self-efficacy) (Parrado et al. 2013; Bovaird et al. 2015; Fledderus et al. 2015; Alford and Yates 2016; Thomsen 2017), resource availability (e.g., knowledge,

skills, and material resources) (Levine and Fisher 1984; Jakobsen 2013). While important, these factors are of less use in efforts to design processes and the activate participants since practitioners cannot address them directly. More recently, researchers have turned to exploring the potential impacts of rewards on citizens' willingness to coproduce (e.g., Alford 2009; Voorberg et al. 2018). Rewards are a particularly interesting area of research as they are tools that practitioners can easily implement to increase participation in coproduction processes.

The notion of rewards as an external motivator of coproduction is inextricably linked to intrinsic and extrinsic motivation (Ryan and Deci 2000). Intrinsic motivation is triggered by interest and enjoyment of the task itself (Ryan and Deci 2000), while extrinsic motivation is triggered by outcomes external to the work (Brief and Aldag 1977; Amabile 1993). The separable outcomes that can be derived by an activity and, thus, extrinsically motivate people to perform it, may vary from material benefits to intangible rewards, such as sociality and expressive values (Alford 2002). In other words, different rewards, including both monetary and non-monetary rewards, may differently affect an individual's intrinsic and extrinsic motivation to coproduce.

Psychological theory suggests that monetary incentives may undermine intrinsic motivation (Perry 1996; Deci, Koestner, and Ryan 1999; Frey and Götte 1999). In particular, rewards that rely on extrinsic motivation (such as monetary rewards) may "crowd out" intrinsic motivation (Frey and Götte 1999; Frey and Jegen 2001; Frey 2007; Georgellis et al. 2011), thus reducing people's willingness to participate. The crowd out effect tends to happen when compensation is perceived as a controlling mechanism, which reduces people's sense of own self-determination or self-esteem (Deci and Ryan 1985; Deci et al. 1999). However, monetary rewards not necessarily have a crowding out effect. They can also crowd in, being not detrimental to intrinsic motivation and strengthening the desired behavior. This may happen when they are perceived as supportive (rather than controlling), and people feel that they are

given more freedom to act, which fosters self-esteem and enlarges self-determination (Frey and Jegen 1999; Ostrom 2000).

Research on the effect of monetary rewards in coproduction is scant. Using a vignette experiment to assess citizens' willingness to support municipalities in helping refugees, Voorberg and colleagues (2018) found that a small monetary reward of 2 euros per hour had no effect on coproduction, but that a larger monetary reward of 10 Euros per hour had a positive, although marginal, effect. Therefore, the authors reject the crowding out thesis in their study, and instead provide evidence that external rewards may generate a crowd in effect when they are perceived as supportive.

Given the contrasting expectations on the motivational impacts of monetary rewards on people behaviors, the effect of monetary rewards on the willingness to coproduce cannot be determined *a priori*, leading to the formulation of two competing hypotheses:

Hypothesis 1a: A monetary reward will decrease a citizen's willingness to engage in coproduction.

Hypothesis 1b: A monetary reward will increase a citizen's willingness to engage in coproduction.

Beyond monetary rewards, people may be extrinsically motivated by non-tangible or symbolic rewards. Symbolic rewards consist of recognitions that 'yield no material benefit' and no material value (Kosfeld and Neckermann 2010) and instead are intended to communicate social approval or appreciation. Examples include plaques, certificates, or trophies. These rewards do not have a real commercial value (Fisher and Ackerman 1998), but they act as mechanisms for reinforcing the desirability of a given social norm and signaling perceptions, attitudes, and behaviors that are socially approved and expected (Cialdini and Trost 1998). Past research, thus, suggests that people can be motivated to contribute not necessarily on the basis of monetary rewards but, instead, on recognition and appreciation, and

that social norm can generate “as strong psychological outcomes as (do) the market norm” (Yang and Ott 2016). A recent review of social norms interventions in public administration (John, Sanders, and Wang 2019) highlights that they are consistent and reliable for policymakers. With specific reference to symbolic rewards, the literature has pointed out that they tend to be effective in guiding action by increasing the visibility of desirable behaviors and creating social status and favorable consequences for the recipient (Frey and Neckermann 2008; Lacetera and Macis 2020). For example, in their study of a nonlinear award scheme, Lacetera and Macis (2010) show a positive relationship between symbolic prizes and donating blood. Specifically, donations tend to accelerate significantly when individuals get close to a threshold, at which point they are conferred symbolic awards, and this increases further when that threshold also implies public recognition. This suggests that motivation tends to increase when actions are associated with a positive social image, even if the rewards have no direct economic value.

Moreover, compared to monetary incentives, which may be associated with greed and money-oriented behavior, symbolic rewards tend not to negatively affect recipients’ self-evaluation or perceptions of self-determination (Frey and Gallus 2016). Therefore, crowding out is a less significant issue with non-monetary rewards than it is with monetary rewards (Lepper, Greene, and Nisbett 1973; Bénabou and Tirole 2006; Gallus and Frey 2016). Accordingly, the following hypothesis is offered:

Hypothesis 2: A symbolic reward will increase a citizen’s willingness to engage in coproduction.

The effects of extrinsic motivators (or rewards) on citizens’ willingness to coproduce also may depend on contextual factors or circumstances which refer to the coproduced service. Indeed, “specific characteristics of the co-produced service can also affect the introduction of co-production, especially because they are closely related to the extent to which the lay actors

are willing to co-produce” (Cepiku et al. 2020, 32). Among these factors there are, for example, the continuity and duration of the service, the extent to which tasks are easy to perform, and the service salience. Coproduction appears to be more suitable for enduring services as citizens can affect their development (Pestoff 2012), it seems to potentially boost higher lay actor’s willingness to engage when the tasks are easy to be performed in terms of distance from the service provider, information available, time and effort required to citizens (Pestoff 2012; Bovaird et al. 2015; Vanleene, Verschuere, and Voets 2017), and can be affected by the importance of the service from the citizens’ perspective (Van Eijk and Steen 2016). Van Eijk and Steen (2016) suggest that service salience – or perceptions about the importance of the service – affects people’s decisions about whether to engage in coproduction, representing the “starting point for a citizens’ consideration about whether to engage” (p. 39).

Indeed, several studies suggest that individuals are more likely to coproduce when the service is considered salient enough to be worthy of the investment of time and effort (Warren, Rosentraub, and Harlow 1984; Pestoff 2012; Chaebo and Medeiros 2017). Thus, service salience may moderate the relationship between rewards and citizens’ willingness to coproduce, despite the possibility of receiving a reward. This has been observed, for example, in the study conducted by Chaebo and Medeiros (2016) who found that citizens’ awareness of the importance, reality and imminence of the severity of the dengue, a debilitating viral disease transmitted by mosquitoes in the municipality of Campo Grande, South Brazil, led to enhanced coproduction to combat mosquitos and so the virus. But a very similar and more recent example comes from the recent pandemic where citizens accepted to coproduce by accepting self-isolating measures or by sharing personal health information in order to fight the pandemic from Covid-19.

However, scholars have not directly addressed the extent to which service salience impacts the effect of rewards on coproduction. We assume that in the absence of service

salience, rewards will not affect coproduction, or, said differently, that the potential effect of rewards on willingness to coproduce manifests only in the presence of service salience. Indeed, if people are already interested in the service being coproduced, a reward should further increase their willingness to coproduce. In contrast, when the service being coproduced is not salient, a reward should not affect their behavior. Given this argument, a final hypothesis is offered:

Hypothesis 3: When the service is not salient, a reward will not increase a citizen's willingness to engage in coproduction.

Methods

To empirically test the hypotheses, we developed a between-subject online survey experiment, which allows for the isolation of the effect generated by one variable on another and contributes to theory development through the identification of causal relationships (Bouwman and Gimmelikhuijsen 2016; Kang and Van Ryzin 2020). In the survey, we asked participants to imagine that their municipality asked them to coproduce public library services. Participants were randomly presented with an announcement that asked them to either co-commissioning or co-deliver new or existing services at the local public library. The co-commissioning scenario asked participants to participate in a series of meetings aimed at developing a new strategic plan for the library. Of the two co-delivery scenarios, one was substitutive and asked participants to help with daily activities such as checking out and shelving books and assisting with reading, internet, and social media courses. The other was additive and asked participants to help expand services for blind and visually impaired adults, such as cataloging new texts in large characters and supporting new reading sessions, which could not be offered without citizen support due to municipal resource constraints.

In addition, each vignette manipulated the reward offered to participants. The control group was offered no reward. One treatment group was offered a monetary reward (a 5 Euro voucher), which aligns with current literature suggesting that if compensation is offered in coproduction, it should be below market value (Brandsen, Steen, and Verschuere 2020). A second treatment group was offered a symbolic reward (a plaque to be received at a public event). This design resulted in three sets of scenarios each with three groups of subjects: (1) groups A, B and C were in the substitutive co-delivery scenario, (2) groups D, E and F were in the additive co-delivery scenario, and (3) groups G, H and I were in the co-commissioning scenario. Respondents were randomly assigned to one of the nine vignette scenarios (Alexander and Becker 1978; Rossi and Anderson 1982) ‘to avoid cognitive burden and confounded treatments’ (Belle’ and Cantarelli 2015, 105). Figure 1 illustrates the final design details and the various announcements presented to respondents are reported in Appendix 1.

[Insert Figure 1 here]

Each scenario was presented to participants through vignettes, which combine the advantage of the flexibility of an electronic survey with internal validity (Thomsen, Baekgaard, and Jensen 2020). We took several steps to design each scenario to increase the external validity of the study (Shadish, Cook, and Campbell 2002). First, we provided contextual information mirroring the financial retrenchment that municipalities in Italy have been experiencing in the last few years. Thus, the incipit of each vignette reported a situation where the municipality was experiencing a reduction in resources. Second, we selected a simple, easy to understand service that respondents might have benefited from at least once in their life but, at the same time, tends to be a common service in municipalities, characterized by continuity of provision: the public library. Indeed, library services are inclusive – citizens of all ages, genders, races,

and backgrounds can access library services. Today, libraries tend to provide services of a different nature: not only they lend books but also audio-video and musical products and have expanded their offer of initiatives aimed at citizens (such as laboratories for children, reflection meetings on important social issues and/or with book authors). There are many examples, not only in Italy but also worldwide, which demonstrate the relevance of library services for the community. For example, the report “*The role of public libraries in engaging citizens in smart, inclusive and connected communities*” published by the Institute of Museum and Library Services (US) provides many examples of public libraries in the United States that conduct activities such as organizing workshops, offering 3D printers, tablets or editing software (even with the support of mentors), providing after school programs, or even supporting job seekers or entrepreneurs in creating a new business (pages 10-11). These examples highlight that the services provided by public libraries have a potential salience for citizens. Emblematic is also the article written by Samphe Ballamingie on Finnish public libraries that reports the results of an investigation on the “role of public libraries in building community and fostering greater equity and inclusion”¹. Moreover, libraries provide a public service that is not necessarily based on solidarity values and, thus, where solidarity feelings should not affect, ex-ante, people’s willingness to coproduce (see Voorberg et al. 2018). Furthermore, several municipalities in Italy have launched coproduction initiatives related to public library services over the last years² (see Rasetti 2014). Finally, due to ethical reasons (see Riccucci, Van Ryzin,

¹ To access the article on Finnish public libraries: <https://open-shelf.ca/20200310-finnish-public-libraries-integrate-diverse-services-to-support-equity-inclusion/>

² See, for example, the initiative ‘La biblioteca che vorrei’ of the Municipality of Pergine Valsugana (<https://fdocumenti.com/document/laboratorio-compartecipato-di-cittadinanza-attiva-laboratorio-compartecipato.html>); the initiative ‘Una biblioteca di strada’ of the Municipality of Piacenza (<https://www.comune.piacenza.it/temi/partecipazione/biblioteca-di-strada/il-progetto-per-l-istituzione-della-biblioteca-di-strada-di-via-libarna-piacenza>); the initiative ‘Giovani sì’ of the municipality of Lucca (<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjquqti1-7xAhV8gP0HHbGrCM0QFjAGegQIDRAD&url=http%3A%2F%2Fwww.comune.lucca.it%2Fflex%2Fcm%2Fpages%2FServeAttachment.php%2FL%2FIT%2FD%2F7%25252Fb%25252Fa%25252FD.e1a0c90f6ea725722015%2FP%2FBLOB%253AID%253D19682%2FE%2FPdf&usg=AOvVaw0A-2FKMprFUC0dLPI6edqX>); the many initiatives implemented by the library of the municipality of Baggio (Milan) (<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwqiv>

and Li 2016), the respondents were not made believe that the request to coproduce from their municipality was a real initiative. Instead, we asked them to imagine themselves in the scenario presented. Additionally, the questionnaire ended by explicitly informing participants that the scenario was artificial and designed for research purposes.

The survey was pre-tested with students and a pool of public-management scholars. The survey was sent to them to refine the text of the vignettes, to be sure that they were clear and understandable, and to collect other suggestions on the research design. As to students, they were asked to fill in the survey by accessing it through a link published on the e-learning of one of the courses they were attending. They were asked to provide feedback on the survey, especially with respect to unclear aspects and wording of the survey, as well as to realism of the scenario. In addition, an e-mail of one of the researchers involved in the project was provided to them in order to provide any further feedback. Their involvement was particularly useful to improve the readability and the clarity of the survey and make the compilation of the survey easier. The final survey was launched through Qualtrics in February 2020. Details about the participants and variable measurement are provided below.

Participants

Of the 775 Italian adults (i.e., people above 18 years of age) who participated in the study, 408 were women and 367 were men. They were invited to participate to the study by Qualtrics via email and were paid for their responses. Quota sampling was used to ensure that the final sample of respondents for each scenario resembled the Italian population in terms of

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www.facebook.com/retebaggio). All links were last accessed the 19 July 2021. More generally, the Italian Public Libraries Association has been promoting the initiative “Design Thinking for Public Libraries” created in Aarhus (Denmark) and Chicago (USA), and funded by the Gates Foundation, which aims to engage communities in the public libraries’ services.

gender, age, income, and education level. Table 1 reports the characteristics of the sample and of the Italian population drawn from the Italian National Institute of Statistics and the Economic and Finance Ministry (ISTAT). As a result of quota sampling, the 9 groups did not differ statistically across characteristics ($p < .05$). There were, however, minor differences between the participants and the Italian population in terms of education and age. Specifically, participants were more likely to have secondary education and higher education, less likely to have lower-secondary education or less, and slightly younger.

[Insert table 1 here]

Measures

Dependent variable. The outcome measure – willingness to coproduce – was presented at the end of each scenario. Citizens’ willingness to coproduce was measured by asking, “*Please, indicate the extent to which you are willing to become a “Friend of the Library” by providing support to your local public library for 1 to 2 hours per week for a period of six months*” (see Voorberg et al. 2018). The variable was measured on a scale from 0 to 10. The choice to measure coproduction in terms of citizens’ willingness to devote some time to the co-commissioning or co-delivery of a public service opens a wider issue on the relationship between coproduction and volunteering, a key debate to which several authors have provided their contribution (for instance Brudney and England 1983; Alford 2009; Osborne and Strokosch 2013; Brandsen and Honingh 2016). In particular, while some see coproduction as essentially voluntary (Brudney and England 1983; Nabatchi, Sancino and Sicilia 2017), others see it as “at least partly voluntary” (Alford 2009), or as an inherent part of the delivery of certain services and thus as something that cannot be avoided to guarantee effective service delivery. This means that coproduction can be potentially either voluntary or non-voluntary

depending on the type of service considered, but certainly includes engaging in library services as a friend/active citizen of a library as an example of coproduction of public services.

Independent variables. We used several independent variables in this study, including monetary reward, symbolic reward, and service salience. Like the study by Voorberg and colleagues (2018), respondents in scenarios B, E, and H were promised a monetary award of a voucher for 5 euros for each hour of support given. In Italy, the minimum salary per hour tends to be around 9 or 10 euros (7,5 to 8 euros after taxes). As the coproduction activity should not be viewed as equal to work, but rather as more like a voluntary activity, 5 euros is an appropriate incentive for coproducing as it is below market value (see Brandsen, Steen, and Verschuere 2020). In addition, this amount of money is in between the lower and higher compensation used by Voorberg and colleagues (2018) who show that a low compensation of 2 euro/hour does not significantly affect people willingness to coproduce public services but an amount of 10 euro/hour only marginally increases this effect.

Respondents in scenarios C, F, and I were promised a symbolic reward – a recognition plaque presented during a public event – if they coproduced local public library services. This symbolic reward was selected to ensure that participants' willingness to coproduce was based on an extrinsic incentive without economic value. Furthermore, it was designed in light of research showing that symbolic rewards are more likely to boost motivation when given publicly (Mickel and Barron 2008; Lacetera and Macis 2010).

Drawing on previous research (Pestoff 2012; Vanleene 2014; Van Eijk and Steen 2016) service salience was measured with an index that averages a respondent's responses to four questions about the perceived importance of the service. Specifically, respondents were asked to indicate on a seven-point Likert scale (0 = completely disagree; 7 = completely agree) the degree to which (1) 'Library services are important to me', (2) 'Library services are important to my friends', (3) 'Library services are important to my family', and (4) 'Library services are

important to citizens in my municipality.’ Exploratory factor analysis showed that the items loaded on a single factor, with a Cronbach’s alpha of 0.86.

Analysis and Results

Monetary rewards seem to have a positive effect on the willingness to participate in additive co-delivery and co-commissioning, but not on substitutive co-delivery. Specifically, figure 2 shows that participants in the additive co-delivery and co-commissioning groups are slightly more willing to coproduce when offered a monetary reward (MR) ($M = 7.82$, $SD = 2.25$ and $M = 7.31$, $SD = 2.73$, respectively) as compared to participants in the control group who received no reward (NR) ($M = 7.37$, $SD = 2.77$ and $M = 6.65$, $SD = 2.79$, respectively). Moreover, monetary rewards had a marginal impact on participants in the substitutive co-delivery group ($M = 7.44$, $SD = 2.66$) as compared to participants in the control group ($M = 7.45$, $SD = 3.06$).

In contrast, symbolic rewards seem to have a negative effect on the willingness to participate in both substitutive and additive co-delivery, but a positive effect on the willingness to participate in co-commissioning. Specifically, participants in both co-delivery groups were marginally less willing to coproduce when offered a symbolic reward (SR) ($M = 7.24$, $SD = 2.92$ and $M = 6.92$, $SD = 2.77$, respectively) as compared to the control group who received no reward (NR) ($M = 7.45$, $SD = 3.06$; $M = 7.37$, $SD = 2.77$). However, as compared to those in the control group ($M = 6.66$, $SD = 2.79$), participants in the co-commissioning group were more likely to participate in coproduction when offered a symbolic reward ($M = 7.12$, $SD = 2.96$).

[Insert Figure 2 here]

The dependent variable (willingness to coproduce) has a highly skewed distribution across all types of coproduction (see figure 3). Specifically, most respondents reported a high degree of willingness to coproduce; however, social desirability bias may account, at least in part, for these responses. Thus, we performed a ‘median splits’ tests – a statistical method for overcoming the problem of skewed distribution – to transform the dependent continuous variable into a categorical variable with ‘high’ and ‘low’ groups (Farrington and Loeber 2000).

The splits test shows that the median is 8 for the three types of coproduction. As the median correspond to 8, by splitting the sample in two groups we are also able to isolate the respondents that selected the top three choices, and thus, that are highly willing to coproduce. This is substantially coherent with the aim of the article of understanding whether giving a monetary or a symbolic reward may increase the percentage of citizens who are the most willing to be involved in coproduction. Moreover, a similar approach has been used in previous studies on coproduction (Riccucci, Van Ryzin, and Li 2016; Van Ryzin, Riccucci, and Li (2017).

[Insert Figure 3 here]

Figure 4 reports the proportions of respondents who are highly willing to engage in each type of coproduction in the three rewards scenarios. With respect to substitutive co-delivery, small differences emerge when comparing the proportion of highly willing participants across groups. Moreover, the proportion of highly willing participants is greater in the additive co-delivery scenario and co-commissioning scenario when a monetary reward is offered (65 percent and 58 percent) compared to the control scenario (58 percent and 42 percent, respectively). It also is marginally greater in the substitutive co-delivery scenario (60 percent) as compared to the control group (59 percent). When a symbolic reward is given to

participants, the proportion of highly willing participants in both the substitutive and additive co-delivery scenario (58 percent and 51 percent respectively) is lower compared to corresponding control groups (59 percent and 58 percent). On the contrary, when asked to co-commissioning, 55 percent of participants are highly willing to be engaged when a symbolic reward is promised, while only the 42 percent are highly willing to do so in the control group.

[Insert Figure 4 here]

To test the statistical significance of the patterns described above, we used a series of ordinary least squares (OLS) and logistic regressions. We ran separate models for substitutive co-delivery, additive co-delivery, and co-commissioning. Table 2 shows the estimate of the treatment effects on the mean (using OLS regression) and on the proportion above a substantively critical threshold (using logistic regression). The OLS regression shows no significant effects of offering either a monetary or symbolic reward on willingness to participate in any of the three types of coproduction. However, the logistic regression shows the percentage of participants in the co-commissioning scenario who are highly willing to coproduce significantly increases when offered either a monetary reward ($p = 0.035$) or a symbolic reward ($p = 0.075$). In particular, the number of respondents who are highly willing to co-commissioning increases from about 42 percent to 58 percent when offered a monetary reward, and to 55 percent when offered a symbolic reward. These results provide some support for hypothesis 1b (a monetary reward will increase willingness to coproduce) and hypothesis 2 (a symbolic reward will increase willingness to coproduce), but not for hypothesis 1a (a monetary reward will reduce willingness to coproduce).

[Insert Table 2 here]

To test how service salience interacts with rewards in shaping willingness to coproduce, we followed the procedures outlined by Aiken and West (1991) and decomposed the predicted interaction using multiple regression. First, participants' service relevance scores were mean centered by subtracting the mean service score from observations. Second, an interaction term of reward and the mean centered service salience score was created. Finally, the interaction models were run separately for co-commissioning and the two types of co-delivery.

Table 3 shows the estimate of the treatment effects on the mean (using OLS regression) and on the proportion above the critical threshold of 8 (using logistic regression). The OLS regression interaction models reveal a significant moderation effect of service salience for both monetary ($p = 0.1$) and symbolic rewards ($p = 0.058$) in the co-commissioning scenario, which was probed further using a marginal analysis. The marginal analysis highlights a statistically significant positive effect of both monetary and symbolic rewards on willingness to co-commissioning public services when the level of service salience was high.

[Insert Table 3 here]

Figure 5 shows the decomposition of the interaction term at one standard deviation above and below the mean and reveals that when service salience is low, both monetary (-0.11 willingness, $p = 0.862$) and symbolic rewards (-0.30 willingness, $p = 0.620$) are ineffective in increasing willingness to co-commissioning. However, when service salience is high, the motivating effect of the two types of rewards is activated. In particular, both monetary rewards (+1.30 willingness, $p = 0.007$) and symbolic rewards (+1.24 willingness, $p = 0.015$) generate a statistically significant increase on willingness to co-commissioning as compared to the control group. Interestingly, the increase in willingness elicited by the two types of rewards offered is

almost the same. Thus, offering rewards significantly increased the willingness to co-commissioning for those showing high service salience, but did not affect the willingness to co-commissioning for those with low service salience. No statistically significant interactions were found in the regression models related to additive and substitutive co-delivery (see figure 5).

The logistic regression interaction models yielded similar results. Statistically significant interactions were found for both monetary ($p = 0.10$) and symbolic rewards ($p = 0.062$) in the co-commissioning scenario. The marginal analysis shown in figure 6 reveals that as compared to the control group and when service salience is high, the probability of being willing to co-commissioning significantly increases when offered either a monetary reward ($+0.28$, $p = 0.002$) or a symbolic reward ($+0.26$, $p = 0.006$). In contrast, no statistically significant effects were found when service salience is low.

The logistic regression interaction model for additive co-delivery also shows a statistically significant interaction between service salience and symbolic rewards ($p = 0.10$), with the marginal analysis showing a negative effect of symbolic rewards when service salience is low. These results provide some support for hypothesis 3, confirming the moderating effect of service salience.

[Insert Figure 5 and Figure 6 here]

We performed further exploratory analyzes to see whether the results were affected by personal characteristics such as gender, age, area of residence, education level and income (see Porumbescu et al. 2021).³ No significant effects were found, with the exception of education

³ The variables education and income were dichotomized in that the number of observations in some categories was low. In particular, the variable education was dichotomized in lower and higher education. Lower Education includes Lower-Secondary Education or less and Vocational Secondary Education, whereas Higher Education includes Senior Secondary Education and Higher level of education. Similarly, the variable income was

level. Respondents with higher education (i.e., those who completed senior secondary education or held a university degree) were more willing to co-commissioning when offered a monetary or symbolic reward. To some extent, this finding is consistent with Voorberg and colleagues' (2018) study, which shows that a monetary reward of 10 euro is less effective for citizens with lower levels of education.

Discussion and Conclusion

Scholars have identified several tools that professional actors can use to encourage lay actors (citizens) to coproduce. However, only few studies have used experimental designs to investigate the causal relationships between specific tools and coproduction. Using a sample of the Italian population, this study examined the potential causal effect of monetary and symbolic rewards, as well as the moderating effect of service salience, on lay actors' willingness to coproduce public library services. Specifically, this study extends Voorberg and colleagues' (2018) research on how governments can enhance people's willingness to coproduce public services by testing whether the provision of extrinsic/monetary rewards (vouchers) and extrinsic/non-monetary rewards (plaque and public recognition) increases people's inclination to participate in one of three applications of coproduction, including collective co-commissioning, collective substitutive co-delivery, and collective additive co-delivery. As such, not only we test, in a same experimental scenario, whether giving monetary or non-monetary rewards makes some difference in affecting the willingness to coproduce, but we also look at the extent to which the effect of different extrinsic rewards varies across

dichotomized in lower and higher income. Lower Income includes the two categories 'less than €26.000' and '€26.000 - €50.000', whereas Higher Income includes the other two categories '€50.001 e €75.000' and 'more than €75.000'.

different types of coproduction and include a contextual and subjective moderating factor, i.e., service salience.

The findings suggest that both monetary and symbolic rewards can have a positive impact on co-commissioning, but no effect on co-delivery. Thus, it appears that rewards may be not all that matters – the type of coproduction activity to which participants are invited also seems to influence their willingness to participate. Moreover, the study shows that service salience positively moderates the relationship between rewards and coproduction when people are asked to co-commissioning. In particular, offering a reward, be it monetary or symbolic, increases the inclination to co-commissioning when service salience is higher.

Importantly, monetary and symbolic rewards do not decrease coproduction willingness. Therefore, findings of our study seem to reject the crowding out effect for monetary rewards as we do not find a reduction of the lay actors' willingness to coproduce when they are offered 5 euros. On the contrary, we confirm that symbolic rewards do not exert a crowding out effect on the recipient's self-evaluation or perception of self-determination.

Our analysis shows that the positive impact of monetary and symbolic reward emerges only when people are asked to co-commissioning public library services. This result may be a function, at least in part, of the differences in the activities involved in co-commissioning versus co-delivery. Research suggests that involvement in coproduction depends on, among other things, the extent to which coproduction contributes to enhance citizens' voice, choice and empowerment (e.g., Lindsay et al. 2019) and the effort required to engage in coproduction (Pestoff 2012; Bovaird et al. 2015; Vanleene, Verschuere, and Voets 2017). In this respect, co-commissioning affords citizens a more substantive say in shaping public services, and therefore potentially provides enhanced opportunities for citizen-empowerment compared with

coproduction at the delivery stage⁴. However, the effort required in co-delivery is different from the effort needed for co-commissioning, with the former tending to involve pre-set activities and the latter tending to be more creative and perhaps knowledge intensive. In other words, creative thinking and planning about things (as is done in co-commissioning) may be more enticing than executing routine activities (as is done in co-delivery) but, at the same time, it can imply the deployment of greater energy, competencies, and effort that may hamper the propensity to participate. This may explain why, indeed, the analysis made shows that the willingness to co-commissioning only increases when rewards are offered while, overall, citizens are marginally more motivated to participate in co-delivery than co-commissioning. Based on the findings, it follows that probably the recognition in the form of either a monetary or symbolic award overcomes the drawbacks of engaging in co-commissioning activities, which by their nature tend to generate less immediate and less visible and tangible activities than co-delivery. In short, rewards may be effective for spurring the willingness to co-commissioning by counterbalancing some characteristics of co-commissioning – low visibility, long-term effects, and complexity – that may contribute to make it less attractive for lay actors (Bovaird et al. 2015). Theoretically, our findings seem to indicate that each specific activity within coproduction (co-commissioning, co-design, co-delivery and co-assessment in the framework adopted in this article) may require ad hoc investigations and ad hoc explanations, with implications on more analytical precision needed in empirical research and in theorizing casual correlations.

This research has several implications for public managers, as it provides insights into the design and the implementation of coproduction, particularly in terms of enhancing the propensity of citizens to coproduce. First, monetary and symbolic rewards can affect citizens'

⁴ We are grateful one of the anonymous reviewers for providing this interesting insight and for pointing to the importance of co-production in enhancing citizens' empowerment.

willingness to coproduce depending on the type of coproduction activity and on the people's perception of service salience. Indeed, the study highlights that citizens react differently to external incentives depending on the activities they are asked to support. For this reason, when adopting coproduction practices, governments should vary the type of reward based on the form of coproduction being used. The analysis suggests that for some coproduction activities (i.e., co-commissioning of the public library activities in this study) monetary and symbolic rewards may be substitutive as they show the same effect. This implies that monetary rewards are not the only form of incentive on which governments can rely, and that other less expensive alternatives can be leveraged. This is particularly important when resources are decreasing, and municipalities increasingly appear to need external support to provide services. However, it should be also acknowledged that with reference to the monetary reward, in order to generalize the results found in this study, additional research should be conducted to test whether different amounts of monetary incentives would affect in the same way the willingness to coproduce, and specifically to co-deliver and co-commissioning. Similarly, with reference to symbolic rewards, we recognize that citizens may consider the need to attend a separate event to receive the reward as an additional cost and this may, too, influence its efficacy as an extrinsic incentive. Further experimental studies may, thus, test the extent to which lower and higher amounts of monetary rewards differently affect citizens' willingness to coproduce (along the different phases of the coproduction cycle), and if different ways of framing the symbolic rewards (such as types of reward and ways in which these are given to participants) impact differently on citizens' willingness to coproduce.

Moreover, the study confirms the importance of distinguishing between different types of coproduction and of clearly defining what is meant by coproduction. This is particularly important given that citizen participation in government at any level and in any phase of the policy cycle is not a temporary fad, but often a legal requirement (Nabatchi and Amsler 2014).

Several limitations to this study are worth noting as they suggest future research avenues. First, the scenarios used and the behavioral responses capture an intention rather than the actual practice of taking part in co-commissioning and/or co-delivery. Survey experiments have a clear disadvantage for measuring a dependent variable based on intent. Indeed, in this study our dependent variable is somewhat artificial as it asks respondents to indicate their willingness to coproduce and does not engage them in the actual practice of co-commissioning and delivery (in this specific case). Thus, it remains uncertain how people would have behaved in a real context, with their municipality asking for their help and offering them real incentives. This points to the need to corroborate the results of the study by carrying out field experiments that have a higher level of external and ecological validity as they allow to test the effect of the treatments on behaviors in the real-world. Moreover, as a survey experiment grasps the direct and immediate reaction to a reward, further research is warranted to test longitudinally what happens over time as the practice of coproduction continues and rewards potentially lose their lustre. In addition, while the effects of rewards are causal, results from the moderated model are not (Imai et al. 2013), as the variable service salience is measured and not manipulated. Future studies may, so, investigate this variable in relation to citizens' willingness to coproduce, for example by also considering the factors which, in turn, can affect the perception of service salience, such as political debates around a specific issue (e.g., who has access, how is it financed, degree of use, or media attention). It is also worth noting that given the sample size, the analysis may be underpowered and, thus, conclusions should be seen as not definitive. Therefore, future studies should validate our findings with a larger sample.

Second, the experimental subjects were recruited through Qualtrics and paid for their participation. Given that this study investigates reactions to different types of incentives, this may generate problems in terms of sample representativeness due to the risk of self-selection among those sensitive to monetary incentives. However, this issue was discussed with

Qualtrics experts during the research design process who noted that respondents are aware that they are paid based on their participation in the survey and not on their specific responses, which lessens concerns about self-selection bias. In addition, Mohr and Kearney (2021) observed that in the absence of a (weak) monetary incentive, survey respondents may pay scant time and attention in filling the questionnaire.

Third, the choice about the amount of money to be offered (5 euro) as a monetary incentive and the type of symbolic reward (as well as the way in which the latter would be given to the participants) may have affected the results of the study. Despite these choices were made building on previous studies that allowed the researchers to identify both types of incentives and how to offer them, inspiring thereby the framing process of the vignettes of the survey experiment, in order to make the findings more generalizable future (experimental) studies could conduct a similar study to test whether different amounts, forms and types of offer of both monetary and symbolic incentives have diverse impacts on citizens' willingness to participate.

Fourth, the research focused on one precise public service (i.e., the public library), and on a delimited socio-economic and cultural context (i.e., the Italian population). To improve generalizability, other scholars could replicate this study in different policy domains, as well as in different countries. This, for instance, would allow to understand how factors such as state and governance traditions, regulatory framework may affect the willingness of citizens to coproduce and the impact of monetary and symbolic rewards provided in contexts characterized by different levels of social visibility generate different results.

Fifth, the extent to which incentives have a different role once the coproduction activity has begun was not investigated. Indeed, the research looks at how governments can activate citizens in a new coproduction activity, so it does not provide evidence on the extent to which rewards can affect co-delivery or co-commissioning once the citizen already is involved in

coproduction activities. Future research could explore the effect of offering different types of rewards at different points in the coproduction process. Moreover, only one type of symbolic reward – the offering of a plaque at a public event – was investigated. Future research could examine whether other types of symbolic rewards, as well as whether other nudges strategies affect citizens towards coproduction and to what extent they complement or substitute other tools (John et al. 2011; Bovaird et al. 2016)⁵.

Finally, several types of coproduction, including collective additive co-delivery, substitutive co-delivery, and co-commissioning were examined. However, several other types of coproduction exist (see Nabatchi, Sancino, and Sicilia 2017). In the future, scholars could investigate the impacts of rewards on other coproduction activities and types. One of the least investigated areas in the coproduction literature is co-assessment. It would be interesting, for example, to understand to what extent rewards can affect citizens' willingness to participate in the measurement and evaluation of public services. Further research could also investigate the effectiveness of different types of incentives across different types of services.

Despite of these limitations, this study points to the importance of distinguishing between co-commissioning and co-delivery when selecting tools to increase citizens willingness to coproduction. In particular, policy makers and managers should carefully evaluate the appropriateness of using rewards as rewards do not always positively impact citizens' willingness to coproduce. Indeed, this study shows that rewards only affect the willingness to co-commissioning, which implies the need to distinguish between different types of coproduction. Furthermore, monetary and symbolic rewards are apparently substitutive (at least in enhancing citizens' willingness co-commissioning), and symbolic rewards may have a greater impact on peoples' willingness to coproduce. As the use of coproduction applications grows, practitioners need clear guidance on whether and when to incentivize participation

⁵ We thank one of the anonymous reviewers for pointing to this aspect.

through rewards. This study offers insights, but more research is needed to provide more precise advice for practitioners.

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APPENDIX 1 *Vignettes*

Vignettes administered to participants in the substitutive co-delivery scenario (Groups A, B and C)

<i>A - No Rewards</i>	<i>B - Monetary Rewards</i>	<i>C - Symbolic Rewards</i>
<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library” aimed at involving citizens in some typical daily activities at the local public library to maintain the library’s full services, such as checking out and shelving books and other library materials, the provision of courses on reading, on the use of internet and on the use of social networks.</i> <i>By becoming a "Friend of the Library", you will help prevent the reduction of opening hours at the library and the cancellation of some services, such as group readings for the elderly and creative workshops and readings for children, due to declines in municipal revenues. Your efforts would thus help maintain the services offered to citizens.</i>	<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library” aimed at involving citizens in some typical daily activities at the public library to maintain the library’s full services, such as checking out and shelving books and other library materials, the provision of courses on reading, on the use of internet and on the use of social networks.</i> <i>By becoming a "Friend of the Library", you will help prevent the reduction of opening hours at the library and the cancellation of some services, such as group readings for the elderly and creative workshops and readings for children, due to declines in municipal revenues. Your efforts would thus help maintain the services offered to citizens. For every hour of support given to the library, the municipality will give you a 5 euro voucher that can be used at affiliated area cinemas, theaters, and sports facilities.</i>	<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library” aimed at involving citizens in some typical daily activities at the public library to maintain local library’s full services, such as checking out and shelving books and other library materials, the provision of courses on reading, on the use of internet and on the use of social networks.</i> <i>By becoming a "Friend of the Library", you will help prevent the reduction of opening hours at the library and the cancellation of some services, such as group readings for the elderly and creative workshops and readings for children, due to declines in municipal revenues. Your efforts would thus help maintain the services offered to citizens. To those who become "Friends of the Library," the municipality will give you a recognition plaque during a public event organized in the summer.</i>
<i>Please indicate the extent to which you are willing to become a “Friend of the Library” by providing support to your local public library for 1 to 2 hours per week for a period of six months. (1 = not at all to 10 = very much).</i>		

Vignettes administered to participants in the additive co-delivery scenario (Groups D, E and F)

<i>D - No Rewards</i>	<i>E - Monetary Rewards</i>	<i>F - Symbolic Rewards</i>
<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library” aimed at involving citizens in some typical daily activities at the local public library to expand services for blind and visually impaired adults, such as the cataloging of new written texts in large characters and supporting reading sessions for blind people.</i> <i>By becoming a "Friend of the Library", you will contribute to providing the library with services for adults who are blind or visually impaired, which the municipality would otherwise not be able to offer due to declines in municipal revenues.</i>	<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library” aimed at involving citizens in some typical daily activities at the local public library to expand services for blind and visually impaired adults, such as the cataloging of new written texts in large characters and supporting reading sessions for blind people.</i> <i>By becoming a "Friend of the Library", you will contribute to providing the library with services for adults who are blind or visually impaired, which the municipality would otherwise not be able to offer due to declines in municipal revenues. For every hour of support given to the library, the municipality will give you a 5 euro voucher that can be used at affiliated area cinemas, theaters, and sports facilities.</i>	<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library” aimed at involving citizens in some typical daily activities at the local public library to expand services for blind and visually impaired adults, such as the cataloging of new written texts in large characters and supporting reading sessions for blind people.</i> <i>By becoming a "Friend of the Library", you will contribute to providing the library with services for adults who are blind or visually impaired, which the municipality would otherwise not be able to offer due to declines in municipal revenues. To those who become "Friends of the Library," the municipality will give you a recognition plaque during a public event organized in the summer.</i>
<i>Please indicate the extent to which you are willing to become a “Friend of the Library” by providing support to your local public library for 1 to 2 hours per week for a period of six months. (1 = not at all to 10 = very much).</i>		

Vignettes administered to participants in the co-commissioning scenario (Groups G, H and I)

<i>G - No Rewards</i>	<i>H - Monetary Rewards</i>	<i>I - Symbolic Rewards</i>
<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library”, in which citizens are asked to participate in a series of meetings aimed at developing the new strategic plan for the local public library.</i> <i>By becoming a "Friend of the Library", you will contribute to redefining the offered library services to make them more compatible with the needs of citizens and in the face of declining municipal revenues.</i>	<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library”, in which citizens are asked to participate in a series of meetings aimed at developing the new strategic plan for the local public library.</i> <i>By becoming a "Friend of the Library", you will contribute to redefining the offered library services to make them more compatible with the needs of citizens and in the face of declining municipal revenues. For every hour of support given to the library, the municipality will give you a 5 euro voucher that can be used at affiliated area cinemas, theaters, and sports facilities.</i>	<i>Please, imagine yourself in the following scenario.</i> <i>The municipality where you live has launched an initiative called “Friends of the Library”, in which citizens are asked to participate in a series of meetings aimed at developing the new strategic plan for the local public library.</i> <i>By becoming a "Friend of the Library", you will contribute to redefining the offered library services to make them more compatible with the needs of citizens and in the face of declining municipal revenues. To those who become "Friends of the Library," the municipality will give you a recognition plaque during a public event organized in the summer.</i>
<i>Please indicate the extent to which you are willing to become a “Friend of the Library” by providing support to your local public library for 1 to 2 hours per week for a period of six months. (1 = not at all to 10 = very much).</i>		

TABLE 1 *Respondents' Characteristics*

	Italian Population	Sample	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I
			Additive co-delivery, No reward	Additive co-delivery, Monetary reward	Additive co-delivery, Symbolic reward	Substitutive co-delivery, No reward	Substitutive co-delivery, Monetary reward	Substitutive co-delivery, Symbolic reward	Co-commissioning, No reward	Co-commissioning, Monetary reward	Co-commissioning, Symbolic reward
Gender (proportion - over 18)											
Male	48.11%	47.00%	0.49	0.44	0.47	0.48	0.47	0.51	0.49	0.45	0.47
Female	51.89%	53.00%	0.51	0.56	0.53	0.52	0.53	0.49	0.51	0.55	0.53
Age (mean) - 2018	51.59	44.3	42.8	43.7	43.4	44.2	45.1	42.2	46.0	45.9	44.9
Education (proportion)											
Lower-Secondary Education or less	50.03%	21.00%	25.61%	20.45%	18.18%	22.47%	22.35%	13.92%	23.33%	17.86%	23.33%
Vocational Secondary Education	5.53%	7.00%	4.88%	3.41%	6.82%	6.74%	8.24%	10.13%	7.78%	9.52%	5.56%
Senior Secondary Education	30.31%	48.00%	46.34%	48.86%	48.86%	46.07%	45.88%	50.63%	45.56%	50.00%	47.78%
Higher Education	14.13%	24.00%	23.17%	27.27%	26.14%	24.72%	23.53%	25.32%	23.33%	22.62%	23.33%
Income (proportion)											
Less than €26.000	74.92%	71.00%	68.29%	71.59%	76.14%	70.79%	70.58%	70.89%	73.33%	70.24%	71.11%
€26.000 - €50.000	19.80%	22.00%	19.51%	23.86%	18.18%	24.72%	21.18%	22.78%	23.33%	23.81%	23.33%
€50.001 e €75.000	3.03%	4.00%	4.88%	3.41%	3.41%	3.37%	5.88%	3.80%	1.11%	3.57%	4.44%
More than €75.000	2.25%	2.00%	4.88%	1.14%	2.27%	1.12%	2.35%	2.53%	2.22%	2.38%	1.11%
Geographical Area (proportion)											
North	56%	57%	0.55	0.53	0.57	0.55	0.56	0.61	0.54	0.62	0.57
South	44%	43%	0.45	0.47	0.43	0.45	0.44	0.39	0.46	0.38	0.43

TABLE 2 *Ordinary Least Squares (OLS) and Logistic Regressions – Model 1 (Main Effects)*

	Additive co-delivery		Substitutive co-delivery		Co-commissioning	
	OLS (mean willingness)	Logistic (proportion 8+)	OLS (mean willingness)	Logistic (proportion 8+)	OLS (mean willingness)	Logistic (proportion 8+)
Rewards (no reward: reference)						
Monetary reward	-.008	.196	.453	.266	.654	.65**
Symbolic reward	-.213	-.074	-.447	-.315	.467	.537*
Constant	7.45	.55	7.37	.34	6.65	-.31
R2	.001	.003	.02	.01	.009	.014

Note: *Significant at 10%; ** Significant at 5%; *** Significant at 1%.

TABLE 3 *Ordinary Least Squares (OLS) and Logistic Regressions – Model 2 (Service Relevance Interaction)*

	Additive co-delivery		Substitutive co-delivery		Co-commissioning	
	OLS (mean willingness)	Logistic (proportion 8+)	OLS (mean willingness)	Logistic (proportion 8+)	OLS (mean willingness)	Logistic (proportion 8+)
Rewards (no reward: reference)						
Monetary reward	-.410	-.263	.526	.356	.592	.706**
Symbolic reward	-.321	-.159	-.397	-.359	.475	.571***
Service salience	1.297***	.869***	1.173***	.487**	.809***	.574**
Service salience * Financial reward	.165	.394	-.340	.399	.640*	.694*
Service salience * Symbolic reward	.106	.106	.380	.63*	.700*	.660*
Constant	7.672	.599	7.267	.309	6.841	-.33
R2	.308	.1751	.261	.125	.257	.17

Note: *Significant at 10%; ** Significant at 5%; *** Significant at 1%.

FIGURE 1 *Experimental Design*

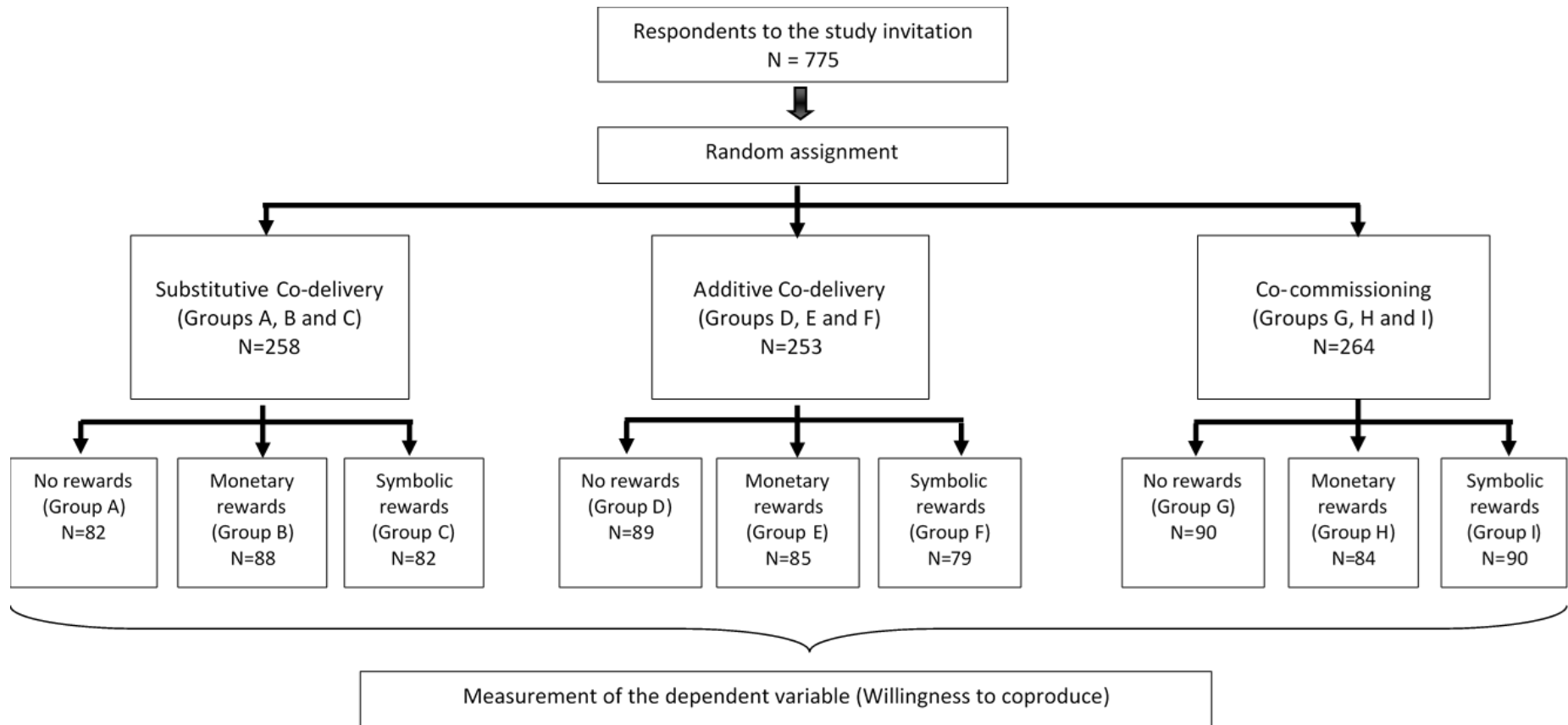
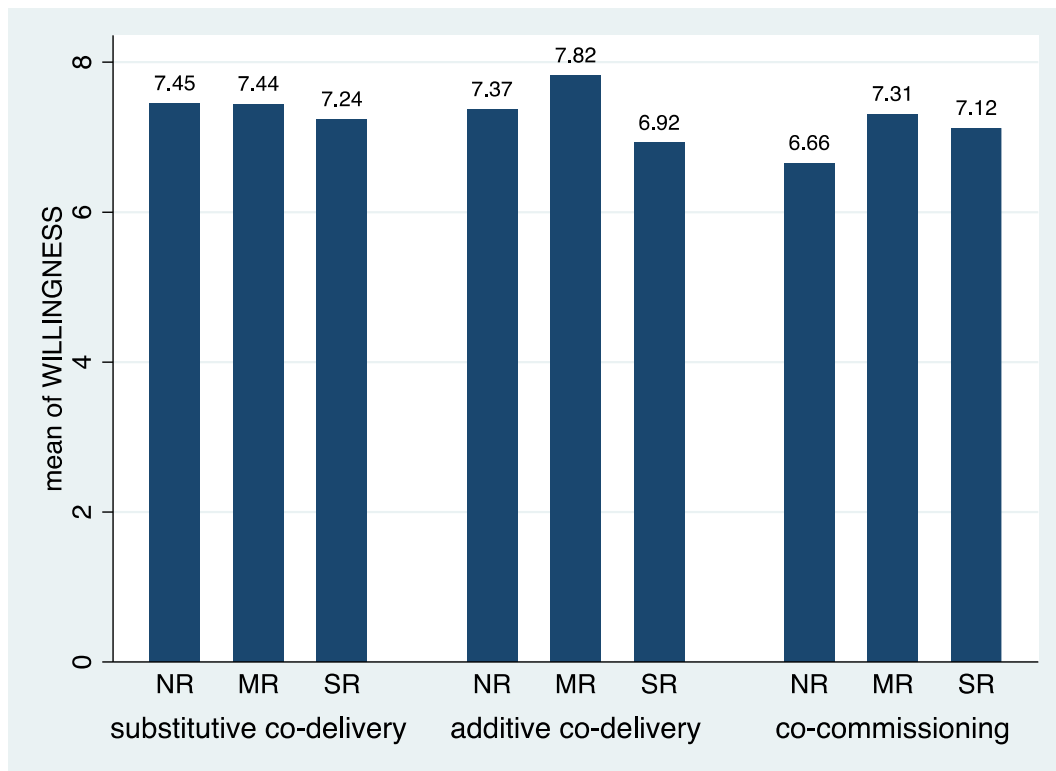


FIGURE 2 *Respondents' Willingness to Coproduce*



Note: (NR = no rewards; MR = monetary/financial rewards; SR = symbolic rewards)

FIGURE 3 *Skewness of the Dependent Variable*

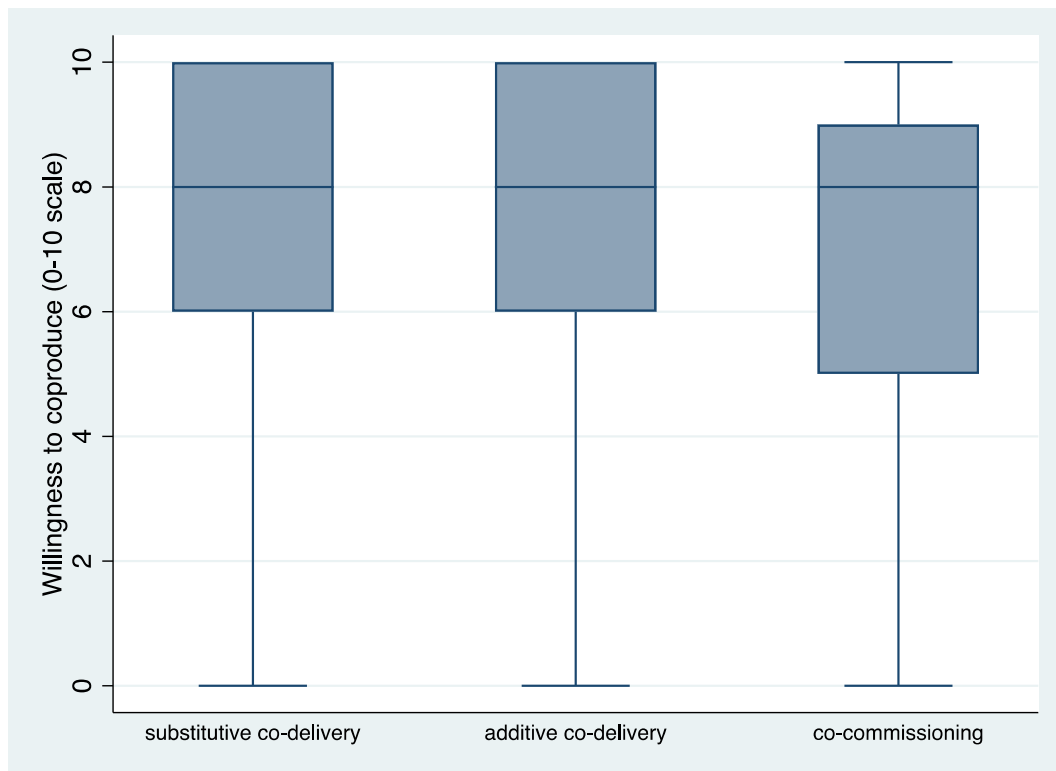
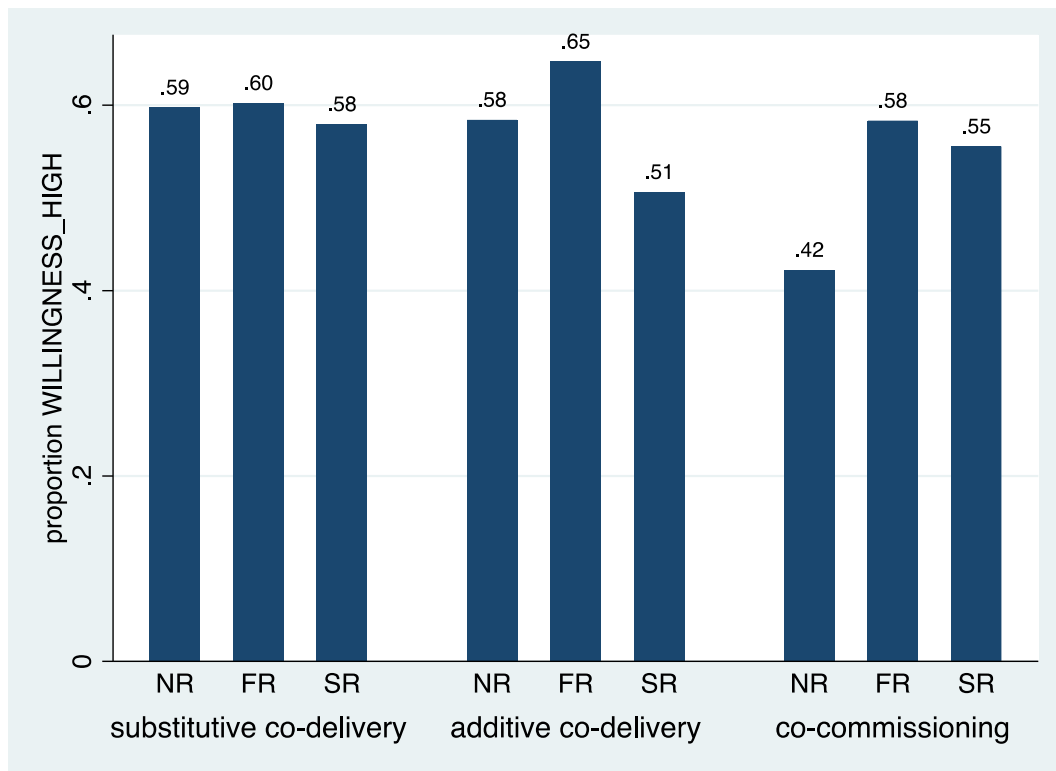


FIGURE 4 *Respondents' Willingness to Coproduce after Median Split*



Note: (NR = no rewards; MR = monetary/financial rewards; SR = symbolic rewards)

FIGURE 5 *Interaction of Rewards and Service Salience on Willingness to Co-commissioning*

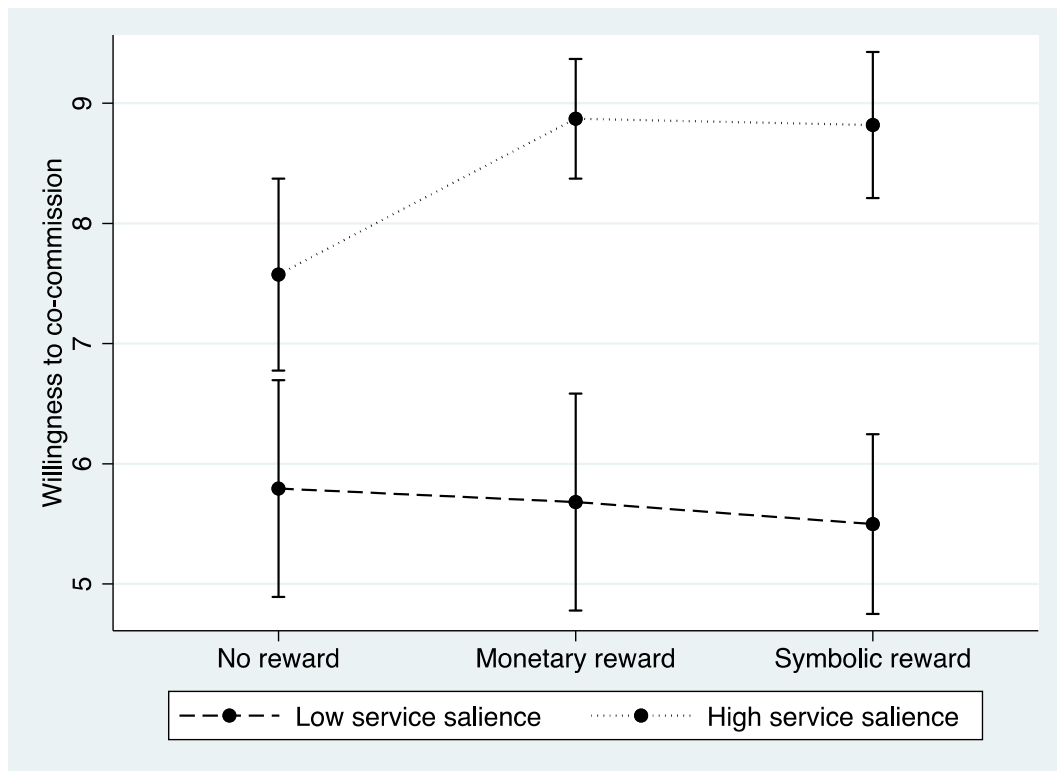


FIGURE 6 *Interaction of Rewards and Service Salience on the Probability of Being Highly Willing to Co-Commissioning*

