



ELSEVIER

Contents lists available at ScienceDirect

Critical Perspectives on Accounting

journal homepage: www.elsevier.com/locate/cpa

The socializing effects of accounting in flood recovery

Alessandro Lai^{a,*}, Giulia Leoni^b, Riccardo Stacchezzini^a^a Business Administration Department, University of Verona, Italy^b Economic and Business Sciences Department, University of Cagliari, Italy

ARTICLE INFO

Article history:

Received 12 November 2012

Received in revised form 22 January 2014

Accepted 17 March 2014

Available online xxx

Mots clés:

Gestion des catastrophes naturelles

Pratiques calculatoires

Processus de reddition de comptes

Dialogue

Keywords:

Natural disaster recovery

Calculative practices

Accountability process

Dialogue

ABSTRACT

Natural disasters require authorities in charge of recovery, to be accountable to all those involved in the process, including victims. Accounting systems can be used to track and account for the fair and transparent management of disaster specific funds, giving visibility to the recovery process and its outcomes. However previous studies suggest that the process of accounting, with its individualizing effects, may create “distance” between the accountant and the accountee, thereby undermining accountability.

This paper investigates the social aspects of the accounting system used by authorities in charge of the recovery from the devastating Italian flood of November 2010. We found that accounting procedures activated after this disaster not only gave visibility to flood damages and recovery actions, but also favored a sense of inter-dependency between all of the players involved. Accounting fostered dialogue, mutual understanding, trust and solidarity among victims, who played a crucial role in enabling the overall accountability process. Our paper provides evidence of the socializing effects of accounting in natural disaster contexts, thereby opening up an interesting area for further research in the streams of critical accounting.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Floods are a worldwide phenomenon, causing death, injury and the destruction of houses and buildings. The international database (EM-DAT) generated by the Centre for Research on the Epidemiology of Disasters (CRED) reports that in the last two decades (1990–2011) 2833 floods have occurred, with most being in Asia, America and Europe (Table 1). Such disasters have reportedly killed 200,000 people and affected 2.7 billion. These floods also resulted in huge damages to infrastructure including roads, buildings, bridges and riverbanks; they closed businesses and halted farming activity; and they made people homeless without access to essential commodities. Recovery and reconstruction activities are therefore crucial for people, businesses, cities and the local economy, and they certainly create significant expense for a country's government. The economic consequences of floods worldwide are significant, with the total estimated damage caused by floods reported as more than US\$650 billion (EM-DAT, 1990–2011). It is therefore a relevant issue both for the sovereign states affected by such a disaster and those managing and monitoring the expenses associated with the recovery.

Italy is subject to frequent floods and is just one of the many countries with a history of flooding. In Europe Italy ranks fourth for flood frequency with 24 big floods occurring in the last 20 years, behind Russia, Romania and France; but it

* Corresponding author. Tel.: +39 045 8028574; fax: +39 045 8028488.
E-mail address: alessandro.lai@univr.it (A. Lai).

Table 1

Frequency, consequences and estimated damages of flood events in the World (1990–2011).

Continent	Number	Deaths	People affected	Estimated damages US\$ (,000)
America	557	40,997	47,300,376	78,088,080
Europe	397	2182	8,197,577	91,164,364
Australia and New Zealand	52	43,179	55,497,953	169,252,444
Asia	1166	100,230	2,611,039,692	309,077,739
Africa	661	16,576	43,232,011	4,885,768
World	2833	203,164	2,765,267,609	652,468,395

Source: EM-DAT.

Table 2

Frequency, consequences and estimated damages of the top ten flooded countries in Europe, ordered for frequency (1990–2011).

Country	Floods	Deaths	Affected people	Estimated damages US\$ (,000)
Russia	48	566	2,174,557	2,520,570
Romania	38	419	387,252	1,925,190
France	30	132	61,737	5,528,350
Italy	24	202	81,930	20,473,300
United Kingdom	23	43	382,725	16,153,230
Greece	18	42	14,188	1,203,359
Germany	14	50	536,708	13,653,600
Bulgaria	13	52	13,508	458,000
Hungary	13	10	181,508	881,400
Spain	13	54	12,856	1,152,885
Total Europe	395	2177	8,197,582	90,342,264

Source: EM-DAT.

ranks first for estimated damage totaling US\$20 billion (Table 2). The economic relevance of floods has prompted our study of the Veneto flood, which occurred on the night of Halloween 2010. On that night and in just few hours, water flooded 140 square kilometers of one of the most productive and rich areas of northern Italy. After three days underwater, a state of emergency was declared, and 262 municipalities of the Region of Veneto were then faced with a dramatic and challenging flood recovery and reconstruction process. Citizens, businesses and local government of the flood affected municipalities were in need of immediate intervention and assistance.

It is only recently that the topic of accounting in natural disasters has received attention in the critical accounting literature, with the role of accounting in the post-disaster recovery processes being investigated in contexts of earthquakes, hurricanes, bushfires and drought (Sargiacomo et al., 2014; Baker, 2014; Taylor et al., 2014; Walker, 2014, respectively). Flood recovery represents a significant issue for governments, given the enormous expenses involved and the literature indicates that accounting can be used as a tool for successfully managing expensive emergencies. However, investigations in the context of floods have not been reported.

Focusing on accounting as a social practice (Miller, 1994) this paper investigates the social aspects of accounting in the 2010 Veneto flood recovery. It conceptualizes accounting as a tool that favors the governing of individuals, groups and organizations (Miller and Rose, 1990; Carnegie and Napier, 1996). Our aim was to explain how, during the recovery from the flood disaster, the use of accounting systems and calculative practices allowed for accountability to display not only individualizing effects but also socializing potential. Given the crucial role expected for accounting in post-disaster reconstructions (Warren, 2007; Labadie, 2008), we focused on accounting effects in the context of accountability because the critical accounting literature reports that calculative practices may create a separation between the accountant and accountee, undermining the accountant's responsibility (Roberts, 1991, 1996; Messner, 2009; Joannides, 2012; McKernan, 2012). According to seminal critical contributions on accounting and accountability (Roberts and Scapens, 1985; Arhens, 1996; Kirk and Mouritsen, 1996; Munro, 1996), we have adopted the view of accountability as a *process*. In particular, we concentrated on the ways in which participants were engaged in the calculative practices and the impact this involvement had on creating understanding and facilitating accountability. This was possible because all the people engaged in the flood recovery process were also involved in estimating and calculating the damage, and this process required collaboration in a social setting. In particular, we investigate the extent to which identified victims were involved in the damage estimation process by officers in charge of the recovery associated with the 2010 Veneto floods. Our investigation focused on assessing whether the adopted calculative practices enabled interaction and dialogue between individuals and institutions. We then interpreted what that meant in terms of accountability on the part of those in charge of the recovery. In doing so, we explored the social and institutional context (Hopwood, 1983), where accounting was implemented as a social practice (Miller, 1994) to understand how accounting intertwined with contextual conditions to produce individualizing and socializing accountability effects.

We adopted qualitative and narrative techniques, combined with document analysis and direct observation of victims engaged in calculative practices. In this paper, accounting refers to all of the calculative practices used at the local level, both

54 by individuals and government, to demonstrate the (economic) damage they have incurred. The terms “accounts”,
55 “calculations” and “estimates” do not denote a systematic bookkeeping system used by municipalities and the regional
56 government during “ordinary times”, but rather refer to the accounting system which was implemented in the recovery
57 process for estimating the resultant damages suffered by individuals and institutions, and for the collection of funds from the
58 Italian central government and other sponsors. These accounting practices include the estimation of the costs incurred by
59 families (damage to purpose-built real estate, registered personal property, and unregistered personal property), by
60 businesses (damage to buildings, property, plant and equipment, inventories), and by municipalities (infrastructure
61 including water supply, roads and buildings along with key service disruptions such as garbage removal). In this vein during
62 the disaster recovery, the objective of accounting was “visualizing” the financial needs of citizens, businesses and
63 municipalities affected by the flood. Unlike ordinary contexts where accounting usually aims to operate “surveillance”,
64 assess performances, or increase cost efficiency, in this extraordinary situation accounting had a less controversial “mission”
65 (Hopwood, 1983, p. 291) and acted in favor of its “objects” (i.e. citizens, businesses and municipalities), because the usage of
66 accounting was primarily the tool to record and compensate the damages of citizens, businesses and municipalities. In
67 consideration of this different context, the perceptions of the affected people about the accounting system needed to be
68 investigated in order to understand the reasons driving affected people to collaborate to the calculative practices of the
69 disaster recovery.

70 With its results, the study contributes to the accounting literature in several ways. Firstly, to our knowledge, this is the
71 first work that critically analyzes the effects of the use of accounting in accomplishing a flood recovery. Actually, while
72 accounting practices are often perceived as a tool to grant rationality, even in a disaster recovery (Warren, 2007; Wilson
73 et al., 2010), the study offers a critical perspective on how such calculative practices enable or constrain the accountability of
74 the recovery process.

75 Secondly, the paper enlarges the possible context in which studies about individualizing and socializing forms of
76 accountability can be conducted (Roberts, 1991, 1996). The context of a natural disaster recovery among the other contexts
77 concerning the public/political sphere (Sinclair, 1995; Broadbent et al., 1996; Broadbent and Laughlin, 2003; Bovens, 2005),
78 constitutes an ideal setting for an investigation on the socializing role of accounting: solidarity and mutual support may act
79 as contextual conditions that support accounting to develop its socializing potential (Labadie, 2008).

80 Finally, the study of accounting in such context challenges the idea that accounting may undermine responsibility,
81 especially in the accountability relationships between the accountee and the accountant (Roberts, 2003, 2009; Shearer, 2002;
82 Messner, 2009; McKernan, 2012). Actually, the accounting for flood system is found to have favored “dialogue” and
83 collaboration among all the individuals involved in the recovery procedure, improving the mutual solidarity already existing
84 in a post-disaster situation. “Dialogue” is here considered as the “encounter” among people, in line with the “interaction”
85 defined by Habermas (1971, p. 72) and recalled by Roberts (1991, p. 360; 1996, p. 48). It is not necessarily regarded as a face-
86 to-face encounter among people, but as an “experience” of interaction among individuals aware of their “inter-dependency”
87 with others (Bryers, 2011) and their “acknowledgement of] the value of the abilities and capacities of different others”
88 (Roberts, 2009, p. 969). In this sense we agree with Morgan (1988, p. 477) when he states that “accounting should be
89 approached as a form of «dialogue»”.

90 The remainder of the paper is organized as follows. It firstly presents the research methodology (Section 2), followed by
91 presentation of the theoretical basis underpinning the investigation (Section 3), the institutional and social context where
92 the natural disaster took place, and the accounting for flood system that was adopted (Section 4). Next we focus on the
93 recovery process and the construction of the accounting system and investigate the calculative activities performed by
94 the players involved, studying how the accounting process requires and influences communication and interaction between
95 the people and institutions involved in estimating the extent and costs of the damage (Section 5). Specifically, we examine
96 how players were familiarized with the requisite accounting procedures and then evaluate how this involvement impacted
97 on inter-dependency between officials and victims. We also assess the impact of the controls used by municipal officers, the
98 government (represented by the Italian customs, excise and tax crimes guard) and the European Union. We then discuss the
99 results of our analysis on the effects of accounting on the accountability process of the flood recovery (Section 6). To
100 conclude, we highlight the contribution our study makes to the accounting literature and then suggest some future areas for
101 critical accounting research (Section 7).

102 2. Research methodology

103 To analyze how accounting fostered accountability relationships, in recovery from this natural disaster, we focused on
104 locating the perceptions and reactions of victims and organizations of the requisite accounting system and its resulting
105 calculative practices. Drawing on the previous literature that has investigated the role of accounting in fostering
106 accountability relationships (e.g. Jacobs and Walker, 2004; Bryer, 2011, 2014), our paper has combined public document
107 analysis, semi-structured interviews and direct observations (Moustakas, 1990; Riessman, 1993). The adopted methodology
108 aimed to interpret data related to the direct experiences, opinions and perceptions of all the people involved in the flood
109 recovery effort.

110 We firstly examined the publicly available documents related to the flood recovery, released for the most part by the
111 Regional government and local newspapers, to identify the procedures and the elements of the response to the flood disaster
112 arranged by the Regional government.

At the beginning, such documents were useful to trace the social and institutional context in which the disaster took place. The press, the words of the citizens and the politicians and the secondary sources like research articles or books were used to identify the main concerns of the victims and the prevailing rhetoric around the flood recovery in the aftermath of the disaster. In particular, we took into consideration both national and local newspapers, avoiding political leaning ones, and press releases published in the Regional web site and in the official web site of the recovery (“www.venetoalluvionato.it). We collected the claims of the victims and of some representative of Veneto’s political and the economic scene. Then, to support the evidences of the peculiar rhetoric that characterized the Region of Veneto, we considered also research articles and books as indirect sources about the cultural identity and the historical attitude of the Veneto people.

After the comprehension of the dominant rhetoric, we then developed an initial set of interview questions. The next step in the research was to understand to what extent accounting represented a social practice in the flood recovery effort. A double round of semi-structured interviews with representatives of the main categories of the players involved in the flood recovery were performed (Table 3). Both rounds of interviews were conducted with victims, businesses, representatives of the main flood affected municipalities and the vice Extraordinary Commissioner for the Reconstruction (vice ECR), who was responsible for the accounting system and other operative tasks. Interviews were also conducted with regional officers of the Flood Team, including the public relations office manager who directed and coordinated the communication and information provided to citizens, businesses, and municipalities. Specifically, families and businesses affected by the flood were interviewed to gain insights into their experience with the accounting system that had been established by the Flood Team. Officials from the Regional government and the municipalities were selected on the basis of their involvement with the flood recovery. Not all the municipalities affected by the flood were included in the study, because we focused on those most affected. Families and businesses were initially selected on a personal referral basis, and then we subsequently asked interviewees for referral to other families and businesses with different or similar stories to be interviewed. The interviews were held both in participants’ homes and in public offices.

The first round of interviews was conducted with eleven interviewees (six from citizens and five from officials). These interviews were used to familiarize ourselves with the recovery procedures and inform our analysis of the available documents, and assisted us in developing questions for the next round of interviews. Interviews were aimed at detecting the presence of relational activities in the accounting procedures and identifying how mutual understanding, cooperation and involvement amongst the main players of the recovery were established. The questions to victims and businesses explored

Table 3
Subjects and duration of the interviews conducted by the authors.

	Duration
First round of interviews (February–April 2012)	
Population level	
Citizen 1	45'
Citizen 2	30'
Citizen 3	60'
Citizen 4	30'
Business 1	30'
Business 2	45'
Municipal level	
Municipal mayor 1	60'
Municipal mayor 2	60'
Regional level	
Regional officer 1	90'
Regional officer 2	30'
Vice ECR	60'
Second round of interview (November 2012–January 2013)	
Population level	
Citizen 5	30'
Business 3	60'
Citizen 6	30'
Citizen 7	30'
Citizen 8	45'
Business 4	45'
Business 5	60'
Citizen 9	30'
Citizen 10	30'
Municipal level	
Municipal officer 1	60'
Municipal officer 2	30'
Municipal mayor 3	60'
Regional level	
Regional officer 3	45'
Regional officer 4	60'

Table 4

List of open questions submitted to citizens and businesses during the interviews.

-
- Did you apply for the reimbursement of damage to the Regional government? Did you apply for the advance payment?
 - How did you hear about the procedure for damage?
 - Do you think that the procedure was clear?
 - Do you think the regional guidelines and the municipal support were effectively delivered to the flooded people? Did you find them useful for a proper reimbursement application?
 - Do you think that this procedure infringed the privacy of your family/business?
 - Did you experienced any difficulties or problems in make the estimates and complete the format?
 - Are you aware of people who have received funds or reimbursement without completing the application?
 - To your knowledge, there were other ways to obtain reimbursement of the damages?
 - To your knowledge, there were people who decided not to apply for reimbursements? If so, for what reasons? (concern for controls, possibility of “doing by their selves”, to avoid delays)
 - Did you undergo any control by your municipality or by the customs, excise and tax crimes Guard? In your opinion, were such controls transparent and effective?
 - Are you aware of people affected by the controls of the municipalities? If so, what kind of controls were made?
 - Are you aware of other floods in which the management of recovery was better? And worse?
 - Which forms of “support” to the application for damage reimbursement do you know?
 - In which ways the Region supported the flooded people in the accounting for damage? Do you believe there were other forms of relief available?
 - In which ways the Municipality supported the flood victims in the accounting procedure? Do you believe other aids or procedures were possible?
 - Did the regional guidelines (report, FAQ, site) facilitate the accounting for damages you were required to implement?
 - Do you think that the Region and the municipalities worked in close collaboration?
 - While fulfilling the application did you ask for help from relatives, friends or neighbours?
 - Did you have the opportunity to help someone?
 - In your town, which is the common opinion about the way the Region handled the recovery? Do you have the same opinion?
 - Do you think that the reimbursement procedure helped or hindered your estimation of the damage?
 - After this tragedy, do you believe that the relationship with your municipality and the regional government became stronger or weaker?
 - Do you think that the controls run by municipalities contributed to increase the efficiency and the equity of the recovery process?
 - Do you think that the accounting for damage procedure enhanced any kind of collaboration among the flood victims? Or did it hinder such collaboration?
 - Do you perceive that a sort of dialogue arose between the flood victims and the municipal offices?
 - How do you evaluate the final document released by the Region on the results of the recovery procedure (“Veneto: the great flood”)?
 - Did you find the information was sufficient for the application? Was some information missing?
-

140 their experience of the emergency relief process, and included how they had interacted with their municipality and the
 141 support they had received from local authorities in accounting for the damage they had incurred (Table 4). The
 142 representatives of the municipalities were asked about the implementation of the accounting system and their role as
 143 intermediaries between the victims and the Regional government. The vice ECR and the regional officers of the Flood Team
 144 were questioned about their intervention in the recovery and the reasons for the way the accounting system had been set up
 145 (Table 5). This round also permitted the collection of additional primary sources provided by the interviewees: damages
 146 accounts that were personally filed by citizens and businesses to municipality officers; aggregated accounts of damages
 147 prepared by the municipalities; the software utilized by the regional officers to sum up all the requests of funds and then give
 148 account of the funds provided by the national government and the European Union. The examination of these documents
 149 was undertaken with a view to understanding the mechanisms in which the players of the recovery were engaged and the
 150 role of accounting in fostering relationships. The documents were matched not only with interviews, but also with articles
 151 and opinions reported in local newspapers and other publicly available sources (Table 6). The second round of interviews
 152 was conducted to test the findings of the first round and to further explore the role of accounting in enabling accountability
 153 in the recovery effort. It consisted of fourteen interviews (nine from citizens and five from officials).

154 Analysis was performed progressively with a focus on generating the codes and identifying relationships and experiences
 155 of the people involved in the recovery. The qualitative analysis software ATLAS.ti was used as an adjunct tool to the analytical
 156 process, to assist with the coding and analysis of the interviews and documents. The software was used to confirm the textual
 157 and data analysis, but it was not used as a substitute for manual analysis.

Table 5

List of open questions to mayors and officers of the municipalities and the regional government during the interviews.

-
- How many requests for reimbursement did the Municipality receive?
 - Were estimates and accounting the only way to get a refund for the flood damages?
 - What role did the municipality play in the process of reconstruction and compensation for damage?
 - Which tasks did the Regional government delegate to the municipalities?
 - Which activities did the municipality accomplish for the region? Data collection? Data processing? Controls?
 - Which activities did the municipality realize for flooded people? Which ones were explicitly requested by the Region and which ones were provided for individual initiative of the municipality?
 - Was there any change to the procedures? If so how did you communicate that?
 - In your opinion, did the region considered the municipality a partner in the flood emergency?
-

Table 6

Publicly available sources and non-publicly available sources collected during the interviews.

Publicly available sourcesWebsite of the Extraordinary Commissioner for the Reconstruction"Veneto alluvionato" ("Flooded Veneto" – www.venetoalluvionato.it).Decrees of the Extraordinary Commissioner for the Reconstruction

- No. 1, 4th January 2010: "Emergency caused by the events, from October 31st to November 2nd 2010, which hit the Veneto Region. Intervention plan: priority order of compensations, as stated by art. 1, c. 3, of OPCM 3906/2010".
- No. 22, 5th July 2011: "Statement of funds to be allocated for the damages suffered by citizens and businesses, according to Article 10, paragraph 1-bis, letter a) of OPCM no. 3906. Allocation of additional financial resources to citizens and businesses. Criteria for the determination and quantification of the percentage of eligible contributions according to Articles 4 and 5 of OPCM no. 3906 and its amendment and additions".

Publications of the ECR

- "Veneto ferito" ("Injured Veneto").
- "Alluvione che fare" ("Flood: what to do"): Guidelines released by the Flood Team in form of FAQ to explain the damage reimbursement procedure.
- "Veneto. La grande alluvione" ("Veneto. The great flood"): The final document released by the ECR at the end of the emergency phase. It was the results of the recovery process and the reimbursement procedures were disclosed.

ECR Press Releases

- No. 1965, 2nd November 2010: "Sense of community to enact the relief".
- No. 1980, 3rd November 2010: "We will write to our parliamentarians. The Veneto Region needs funds for the damages it suffered".
- No. 1984, 4th November 2010: "More attention to the tragedy of Veneto Region".
- No. 2052, 15th November 2010: "Nomination of Extraordinary Commissioner for the Reconstruction: 'Be quick, with transparency'".
- No. 2169, 29th November 2010: "Application forms, refunds for damages and mayors' tasks".
- No. 166, 1st February 2011: "Controls over public funds for flooded people: agreement between Veneto Region and customs, excise and tax crimes guard. Unique model in Italy".

Newspapers articles

- Giornale di Vicenza, "ECR: I will give mayors the money", May 12, 2010.
- Giornale di Vicenza, "Tajani: from EC 25 million euros", November 13, 2010.
- Giornale di Vicenza, "Within Christmas deposits in advance for families and businesses", November 19, 2010.
- Giornale di Vicenza, "«I would like less suspects»: interview with Zaia" December 19, 2010.
- L'Arena, "Reimbursement, but not for everyone", January 5, 2011.
- L'Arena, "Scrap cars and fridges: experts count for damages", January 22, 2011.
- Giornale di Vicenza, "Flood: European inspectors check the expenses of Vicenza", November 9, 2012.

* * *

Non-publicly available primary sources

(These sources were kindly provided by citizens and businesses hit by the flood and by officers involved in the recovery process. The list is not exhaustive)

- (Informal) calculations made by citizens and businesses to fill the accounting forms established by the ECR to have the right to apply for damage refunds.
- Application forms released by the Flood Team and filled by citizens and businesses for the reimbursement request.
- Lists of the damages presented to the municipality by citizens (excel format).
- Lists of damages presented to the municipality by businesses (excel format).
- Lists of the first emergency actions by the Municipality of [...].
- Lists of the inspections by municipal experts to citizens and businesses affected by the flood.
- Flood reports prepared by the Municipality of [...] containing the list of flooded families and businesses, the institutions engaged in the recovery, the help provided by volunteers.
- Report by the Mayor of the Municipality of [...] containing the detailed description of the flood; the policies for the emergency; the strategies for the reconstruction; the informal balance sheet of the flood; the financial aids provided to the Municipality.
- Report by the "Flood Office" of the Municipality of [...] containing the list of the activities run by the municipality officers during the first days after the flood and the list of the major "critical issues".
- Memorandum stated by the "Comitato di aiuto alle persone e famiglie alluvionate presso il Comune di [...]" (Committee for help to individuals and families affected by the flood).
- List of policies for the distribution of financial aids to citizens by the municipality of [...].
- Alerts to populations given by the municipalities of [...].
- Resolutions of the bodies of the municipality of [...] describing the emergency intervention policies.

158 Finally, to verify the findings of the interviews, direct observations were undertaken through three visits to the municipal
159 offices. At these meetings flood victims asked officers for information and assistance with applying for reimbursement. The
160 first and the third visits were conducted in Vicenza, the main city affected by the flood, where we observed 6 officials and 17
161 people from families and businesses affected by the flood in total. The second visit took place in Caldogno, a small
162 municipality with the greatest percent of damage, where we observed 2 officials and 10 people from families and businesses
163 affected by the flood. Each visit lasted about half day. During these visits, we observed and took notes of the encounters
164 between victims and officers and their dialogues, including the issues they raised and their arguments, taking notes and
165 comparing the observation with the content of the interviews.

3. Theoretical background

Commencing with the seminal work of Roberts and Scapens' (1985), the role of accounting systems in sustaining systems of accountability has been investigated by accounting scholars from various sociological, interpretive and critical perspectives.

In accounting research, accountability is the process of "giving and demanding of reasons for conduct" (Roberts and Scapens, 1985, p. 447); it therefore represents a mechanism that enables the contribution of information by participants to the accountability process. It favors human interactions and the development of relationships for its application (Willmott, 1996). In this respect, accountability could be seen as a broader concept than accounting in the purely economic sense, because it expands to contain many non-accounting components (Jones and Dugdale, 2001).

Accounting, and more generally calculative devices, can involve procedures which influence "a device for acting upon activities, individuals and objects in such a way that the world may be transformed" (Miller, 1994, p. 2). Effectively, accounting represents a mechanism for the management of organizational and social arrangements (Potter, 2005), as it renders the "subject" visible, sets limits around the individual's activity and favors control at a distance (Miller, 1992; Robson, 1992; Rose and Miller, 1992; Hopwood, 1990). It also can provide "the basis for a crucial kind of self-discipline" (Porter, 1995, p. 45). Based on the views of Miller (1992), it can be argued that the "calculable and calculating subject is not only governable, but is, ideally, capable of responsible self-governance" (McKernan and McPhail, 2012, p. 178).

While accounting invents "calculating selves" and "calculable spaces" (Miller, 1992, p. 64), it "create[s] a particular type of intelligibility, meaning and understanding for organizational and social affair" (Potter, 2005, p. 268; see also Caker, 2007). It also has the "potential for alienation in this process, either through being captured wholly by the image of self that others offer, or through coming to believe in the essential autonomy or independence of the self" (Roberts, 1996, p. 44). The reporting process forces individuals to place a focus on themselves at the expense of cooperation with others, diverting attention away from a real accountability and occluding a moral sense of responsibility to which it is associated, up to the emergence of a "narcissistic preoccupation with how the self and its activities will be seen and judged" (Roberts, 2001, p. 1553). Accounting may create a separation between the accountee and the accountant, thereby protecting self-interest rather than common interest. The literature advocates that as a consequence, this may induce the accountant to represent only the positive side of their actions (Shearer, 2002; Roberts, 2009; McKernan, 2012). In this sense, "accountability itself may become a problematic practice, if it does not acknowledge its own inherent limits" (Messner, 2009, p. 919).

Researchers have analyzed the role of accounting in relation to other more "informal" tools related to accountability (Laughlin, 1990) and Roberts (1991, 1996, 2001) has introduced a distinction between two forms of accountability: namely "hierarchical" forms, which include financial accounting and calculative tools (McKernan, 2012; McKernan and McPhail, 2012; Lowe et al., 2012); and "socializing" forms, which are depicted as types of social accounting and informal communication based on the face to face contact between people. He points out that this latter form of accountability can only occur where there is no power differential between the players, so that dialogue across hierarchical levels is fostered, conflicting interests are mediated, mutual understanding is favored and there is a "sense of social solidarity" (Panozzo, 1996, p. 194). Roberts argued that hierarchical/formalized forms of accountability are solitary and singular and generate individualizing effects, because they are performed solely by the accountant in isolation from the accountee (Roberts, 2009) and they may generate a preoccupation in the accountant for the judgment of others about his results: a sense of shame or pride may emerge (Roberts, 2001). On the other hand, he suggested that more informal mechanisms of communication, which included face-to-face interactions, would facilitate interaction between the accountee and the accountant through dialogue (Roberts, 2003), giving the accountant insight into the accountee and their circumstances and thereby creating the potential for shared responsibility (Roberts, 2009), creating a deeper sense of relatedness to each other and generating a shared and credible understandings of organizational reality (Roberts, 2001). This, he argued, would create a more compassionate form of accountability, and he called for alternative forms of, and transformations of, accounting to achieve socializing effects.

Individualizing and socializing forms of accountability do not only materialize as a "sharp dichotomy" (Roberts, 1991, p. 365) but we have to "acknowledge the actual interdependence and interpenetration of these two forms of accountability in organizational activity". Superficially they appear as wholly competing organizational orders, but the sense of hierarchies may be mitigated by "lateral relationships" that favor a sense of interdependence. Furthermore, individualizing forms of accountability can prevent the idealization of the spirit of community enhanced by informal relationships because "the impersonal order of hierarchical accountability can be seen to compensate for the ways in which the informal fails to effectively manage the individual differences that in contains within itself" (Roberts, 1996, p. 51). Consequently, calculative practices may have socializing effects in the sense of fostering communication across hierarchical levels, creating trust and mediating conflicting interests.

Other accounting scholars have offered contributions to the debate in regards to the individualizing and socializing effects of accounting and other accountability tools. Effectively, this debate has not been limited to business settings – like the ones investigated by Roberts in his outstanding contributions – but has also focused on public instrumentalities (Sinclair, 1995), communities (Jacobs and Walker, 2004; Jayasinghe and Wichramasinghe, 2007), households (Walker and Llewellyn, 2000) and individuals (Boden, 1999). In these settings, as well as in a context of a natural disaster recovery, the focus on assessing and evaluating individual and organizational performance may be weaker or missing. In any case, individuals are "subject" to visibility, no matter the reason of the constant surveillance made possible by accounting. In this respect, Jacobs and Walker (2004) investigated the issue of accounting and accountability in the context of the practices of an ecumenical Christian group and reported that the distinction between individualizing and socializing accountability was not clear

because the structures supporting socializing accountability had the potential to operate as a form of surveillance and domination. They also showed that a socializing form of accountability may not necessarily be positive and liberating as it can also function as a mechanism to achieve domination and internal surveillance (2004, p. 378).

Other recent works have criticized the individualizing role traditionally ascribed to accounting and has indicated the possibility of accounting to empower the relationship between the individual and others and as a consequence generate socializing effects which have been traditionally linked to dialogue and face-to-face relationships (Bryer, 2011, 2014). In the studies about worker cooperatives formed through a grass root initiative in Argentina, Bryer attributed a social and aggregating function to accounting and challenged the individualizing role that was usually ascribed to accounting, demonstrating that hierarchical forms of accounting were not self-centered because they were able to be sensitive to the needs and understandings of individuals.

In their examination of the accountability practices embedded in Buddhist and Hindu religious organizations located in non-Western societies, Jayasinghe and Soobaroyen (2009) demonstrated that in contexts where the accountee is highly confident that the accountant will behave equitably and fairly, there may be no need for formal accountability because the accountability practices are perceived as being no more than “ceremonial rituals” that strengthen the temple’s righteous and prudent image to the religious society (p. 1022). Institutional and social context plays a remarkable role in fostering the need for accountability and in favoring acceptance and trust in accountability procedures (Kirk and Mouritsen, 1996; Ahrens, 1996; Jones and Dugdale, 2001; Porter, 2005): Accounting “may be or may not be called forth in systems of accountability and their calling forth depends on people deploying their potentiality to support or raise issues” (Mouritsen, 1994, p. 4; see also Willmott, 1996).

This literature raises questions with regard to the interplay between individualizing and socializing forms of accountability, at least in respect of the effects produced in unusual contexts. Scholars focusing on the social and economic consequences of natural disasters outside of the accounting research stream, have acknowledged that accounting and accountability systems can play an important role in post-disaster reconstruction (Warren, 2007). They have however highlighted that such systems are often subject to strict regulatory requirements and run the risk of effectively centralizing the disaster recovery effort where decision making is restricted to only a few parties. Thieken et al. (2007) found that more information about prevention may improve preparedness and response during natural disaster events, and in case of flood, Scolobig et al. (2012) confirmed there was a link between awareness and preparedness. Moreover, Wilson et al. (2010) defined accounting as a practice to govern and maintain the rational state of organizations facing an extreme event. In a different vein, other scholars demonstrated not only the need for accounting and accountability, but also the necessity for central governments to involve local governments in the collection of information and data for the recovery (Waugh, 1994), since the involvement of the whole affected community in planning for and implementing post-disaster reconstruction will assist in the realization of transparency and equitable outcomes during the period of recovery (Labadie, 2008).

Accordingly, the unusual context of a disaster recovery represents an ideal situation in which it is possible to critically explore the consequences of the use of accounting practices on the accountability of the recovery. On one side, the setting of a post-disaster recovery may be characterized by spontaneous solidarity in relation to the shared emergency situation where the socializing potential of the accountability process can be facilitated. On the other side, such setting may produce a preoccupation for citizens to emphasize their condition of “victim” in front of the public opinion, thus facilitating the individualizing potentials of accounting at the level of the local community (Veneto citizens) versus the rest of the Country.

Considering post-disaster contexts, we have been unable to identify any investigation of the use of accounting, in managing and reporting on the process of flood recovery, although, in a critical vein, Samiolo (2012) has demonstrated the impact of different “styles of calculation” in orienting prevention from floods in the city of Venice, and has shown that “numbers can make decisions appear to descend from a neutral, impersonal and calculative logic, rather than from a subjective judgment” (p. 382). The paucity of published investigation is surprising given that many countries have a reported high flood risk (Barredo, 2009), with the social and economic consequences being both dramatic and expensive when floods occur. Flood disasters account for about a third of all natural disasters (Knight and Samuels, 2003), with flood risk assessment and quantification of the potential damages playing a pivotal role in both limiting the consequences of an actual event and in sustaining the recovery process (Lindell and Prater, 2003).

Whilst the social and economic impacts of natural disasters cannot be neglected (Alexander, 1993, 1997), such events represent a new issue for accounting research. When dealing with disaster and extreme events, scholars have described post-disaster recovery processes as both complex and multi-faceted (Labadie, 2008), and have highlighted that calculative mechanisms constitute potentially useful tools which can help officials drive a recovery process. Governments at all levels are accountable for their public actions (Gray et al., 1996); yet Labadie (2008) reports that monitoring, calculating and auditing mechanisms for assessing the use of dedicated recovery funds were either weak or non-existent, thereby compromising transparency, accountability and equity. This raises issues with regards to the effects of the application of calculative measures for governing an equitable and shared natural disaster recovery process, given the importance of lead recovery rules and related (numerical) procedures being accepted and perceived as democratizing (Porter, 1995).

In line with the recent call for research into accounting and accountability in the area of natural disasters and the humanitarian interventions involved, Sargiacomo et al. (2014) investigated the role of accounting embedded in a moral economy characterized by inequality and suffering, like the aftermath of the devastating Abruzzo earthquake, which occurred in Italy in 2009. Drawing on Bourdieu’s work, they studied the mobilization of accounting and other associated practices to enhance efficiency, freedom and wellbeing in the disaster, and found that while at the beginning of the

emergency accounting was focused on alleviating suffering, as time passed by, it turned to be focused on its traditional aims, like preparation of reports and cost estimations. Furthermore, also Walker (2014) deepened the role of accounting in the recovery from the devastating 1930s US drought, with specific interest on the attempt to resettlement and mitigation of future drought risk. Accounting is found to have acted as a “key facilitative technology” during the recovery phase since it helped the governmental agency monitor the recovery results, assess the progress of its participants, and identify critical areas of intervention.

Inversely, with special attention to accountability, Baker (2014) analyzed the breakdowns of calculative accountability in the aftermath of the Hurricane Katrina, demonstrating a lack of communication among the different levels of government institutions and lack of compassion toward the victims of the disaster. He verified that the absence of moral aspects in the accountability, especially due to institutional racism, caused the failure of the governmental response to the hurricane. Besides, Taylor et al. (2014) studied accountability in the context of the recovery from the 2009 Australian “Black Saturday” bushfires. They investigated the accountability relationships between the organizations and the beneficiaries of the relief effort, by comparing the ratings of accountability by governmental and non-governmental organizations involved in the disaster recovery. They identified that accountability functioned in a downward fashion, and found Non-Government Organizations (NGOs) poorly rated downward accountability to their beneficiaries, since these organizations built their intervention on direct action at a grass-root level. They highlighted that where the interface between the organization and its clients was close that there may be no need for formal accountability processes, and suggested that in the case of NGOs alternative forms of accountability may be more appropriate.

As highlighted by seminal contributions on the role of accounting in organizations and society (Burchell et al., 1980; Hopwood, 1983; Roberts and Scapens, 1985), our investigation will assist with creating an understanding of the functioning of accounting in flood recovery. The social and institutional context in which the flood disaster took place and the unusual conditions under which calculative practices were activated for the recovery, offer an opportunity to understand the implementation and acceptance of these practices and the execution of accountability mechanisms designed to circumvent free-riding, fraudulent behavior, and corruption (Porter, 1995).

4. Contextual conditions of the flood recovery

Veneto is the region of northern Italy where the flood disaster took place in November 2010. With about 5 millions of people, it ranks fifth most populated in Italy, and it is the 8th largest Italian region with an area of 18,378 sq. km Veneto is divided into seven provinces. Venice is the region’s capital and largest city, followed by Verona, Padua and Vicenza. The government of Veneto Region takes place in a framework of a presidential representative democracy, whereby the President is the head of the government. Executive power is exercised by the Regional Government and the Region acts as an autonomous body with its own legislative, administrative and executive functions. The Veneto economy is mainly centered on trade, agriculture and industrial clusters (Belussi et al., 2003), and constitutes one of the most productive and rich areas of Italy, contributing 12% to the Italian GDP (ISTAT – 2010). The disaster resulted in 3000 businesses damaged, 230,000 dead animals, 55 interrupted roads, 51 landslides and 15 riverbank collapses. Citizens and representatives of the Veneto Region were truly concerned about the consequences of the disaster on their local economy, especially given the generalized funding cuts that had resulted from the spending review process, and had already affected both Italian and European governmental institutions.

The first days after the tragedy, it was possible to identify in the press a generalized concern about the actual capability of the national government to provide reimbursements and resources needed for the reconstruction. The following are two examples of the themes voiced by victims and reported in the newspapers:

“I live off of this business. I had just renovated the bar underneath the restaurant, but it has been completely destroyed. I only hope that in a few days the authorities did not forget what happened.” (Pasquale Vitello, Pizza restaurant owner, statement from the Corriere della Sera, November 4, 2010).

“I have lost everything! My business closes here. I invested hundreds of thousands of euros. With no help, I will pay the wage to my employees and I am done.” (Giuseppe Vicari, car dealer, statement from Corriere della Sera, November 4, 2010).

Such a concern is traceable also in the words of the President of the Region (the ECR to be):

“We are on our knees and everyone must know [. . .]. I ask for an extraordinary intervention by the Council of Ministers. Although the Country is in a difficult moment due to the international financial crisis, the Veneto region now deserves help, after years of contribution to the wealth of Italy (Corriere della Sera, “Luca Zaia: We are on our knees”, November 4, 2010).

Furthermore, along with concerns about the intervention, victims and representatives complained that the national government had shown little attention to the aftermath of the disaster. Local newspapers reported:

The TV news and the national newspapers treated a flood that brought the region to its knees like an overflowing in the basement. We have been ignored. Not like the live coverage about the Tevere river that risk to overflow Rome [. . .] According to the inhabitants of the area what is more upsetting is not the flood in itself but “to felt ignored for days” and “the distance of the institutions” (Il Gazzettino, November 4, 2010).

Veneto citizens felt the distance of the Government: in the aftermath of the flood the Veneto felt abandoned: the 54.1% of the population felt small or no solidarity from Italian people, while the 37.6% sensed enough or a lot of it. [. . .] About the attention

344 of the local media, the 83.8% of Veneto people consider the attention adequate, whilst the 54.3% of the attention paid by
345 national media was considered inadequate. (*L'Arena*, November 17, 2010).

346 Such a distance was underlined also by the representative of the Veneto industrialist association, interviewed by a local
347 newspaper:

348 *Looking to our territory we feel a big distance from Rome: too much negligence, too slow reactions (Andrea Tomat, President*
349 *of the Industrialist Association for Veneto Region, Corriere del Veneto, November 9, 2010).*

350 A few days after the tragedy, Veneto citizens and representatives strongly voiced their concerns about the central
351 government and its “distance”. Reporting the words of political representatives and Veneto personalities, newspapers
352 underlined that while the Municipalities and citizens of the Region acted with rapidity and solidarity, the intervention of the
353 national government was still not in place:

354 *The Veneto citizens are very good as they do everything by them-selves, just see how they reorganized everything in few*
355 *days. As a region [i.e. Piedmont] we have contributed with the means of rescue and we are fundraising with a checking*
356 *account (Roberto Cota, President of Piedmont region and Northern League member, L'Arena, November 10, 2010).*

357 *The region, with its productive forces and intellectual resources, in addition to its institutions, is not afraid to react, rolling up*
358 *its sleeves as it did many other times during its history (Andrea Tomat, Carlo Mazzacurati, Giuseppe Zaccaria, Carlo Carraro,*
359 *Alessandro Mazzucco, Riccardo Calimani, Alvise Zorzi, Corriere della Sera, November 6, 2010).*

360 The immediate intervention of the local authorities and volunteers, as opposed to the initial delay by the national
361 government, reinforced a federalist discourse, which has historically characterized the Northern regions of Italy, including
362 Veneto. Such a discourse is related to a sense of local identity of the Region, the so called “*Identità Veneta*” (Venetian Identity),
363 which has historically been supported by cultural and editorial activity (Dalla Zuanna et al., 2004; Lorenzetto, 2010). It also
364 fostered the political idea of independence of the Northern Regions from the rest of Italy, and found political representation
365 in the “Lega Nord” (“Northern League”), of which Luca Zaia, the President of the Veneto Region, and the ECR (Extraordinary
366 Commissioner for the Reconstruction) to be appointed, were a member. Previous political and sociological studies underline
367 how the “Northern League” usually uses slogans as “the productive North” and “region as nation” to foster a rhetoric of
368 regionalism. This rhetoric was also labelled as “populist” (Agnew, 1995), because it instilled in Northern Regions like Veneto
369 a sense of cultural and economic difference as opposed to the sovereign State, Italy (Agnew and Brusa, 1999, p. 123), and
370 reinforced the federalist discourse in the Italian political debate (Wood, 1995; Fremeaux and Albertazzi, 2002).

371 According to this reinforced federalist discourse, Veneto citizens were praised by their representatives and the
372 newspapers for their immediate response to the disaster and regarded as “always doing by their selves”, underlining the
373 practical culture of Veneto people, “a culture of hands that can’t stand still, of thoughts that have to lead to practice”
374 (Bernardi, 1986, p. 1). Veneto citizens were also depicted as deserving national help, since in this disastrous situation they
375 were not able to do everything themselves. The words of the Vice President of the Italian Industrialists Association reported
376 in the national economic newspaper (*Il Sole 24 Ore*) are representative of many others:

377 *The communities and the productive system of Veneto, brought to their knees by the flood have to become a national priority.*
378 *This region is one of the manufacturing heart of our country that has been able to react in the best way to the crisis, giving*
379 *signals of productive and occupational recovery. The damages are putting in serious danger the results achieved by the*
380 *companies. An immediate establishment of a governmental table which involve institutions and political and social forces,*
381 *national and local is necessary, in order to quickly put in place financial and operational instruments that allow a fast*
382 *recovery of the living conditions of the inhabitants and business activities. (Vincenzo Boccia, Vice President of*
383 *“Confindustria”, the Italian Industrialists Association, and President of “Piccola Industria”, Il Sole 24 Ore, November 7, 2010).*

384 In response to the emergency, the national government provided initial funds to an extraordinary, autonomous
385 institution at the regional level making it accountable for assessment of the damages and for the allocation of the
386 reimbursements to citizens and business affected by the flood. The central government intervention was characterized by
387 two elements: (i) the provision of public assistance money to respond to the impossibility for Veneto to be self-sufficient; (ii)
388 the consideration of the federalist discourse through the delegation of the recovery to the Veneto Region.

389 As a result, an *ad hoc* accounting and accountability system for the flood recovery was activated at the regional level to
390 grant transparency in the use of public funds and to support the coordination of the recovery process at the local level. We
391 now present the results of the analysis of how the “accounting for flood” system functioned and drove the accountability
392 process for the recovery.

393 5. Results: accounting and accountability for flood

394 5.1. Summary of the flood impacts and the accountability purposes of Veneto Region

395 Document analysis revealed that three people had died in the flood, 6670 had been evacuated from their homes and from
396 three regional hospitals. A total of 500,000 people in 262 municipalities (10% of the population of the Veneto Region) had
397 been affected by this disaster. The flood put a halt to industrial and farming activities and services on one of the richest area of

Table 7
Accounting practices during the emergency phase.

Dates	Recovery process phases	Accounting practices
2nd November 2010	Regional Government of Veneto declared the state of crisis.	
5th November 2010	National Government declared the state of emergency in Veneto and delegated to the Regional government the whole recovery.	Delegation of duties
13th November 2010	The task force Flood Team was created and its chair (ECR) nominated. Initial funds of € 300 million were allocated by the National Government. An extraordinary accounting procedure to estimate damages and reconstruction expenses was arranged by the Team and assigned to flooded families and businesses.	Creation of accounting for damage procedure
20th November 2010	Municipalities had the duty to report an initial rough estimation of damages and reconstruction expenses.	Rough estimations
26th November 2010	Release of guidelines “ <i>Alluvione che fare</i> ” to support citizens and businesses in accomplish the damages calculations.	Presentation of the accounting procedure
28th November 2010	Creation of the official website for the Veneto flood recovery to reinforce the Regional support.	Team’s support for the accounting procedure
6th December 2010	First deadline for the submission of reimbursement request to obtain a deposit in advance.	Preparation of the formats and calculation of damages
17th December 2010	Provision to flooded families and businesses of € 218 million of deposits.	Allocation of the deposits
10th February 2011	Second (and ultimate) deadline for the submission of the reimbursement request.	Budget preparation and invoices collection to account for reconstruction works and lost goods
March 2011–March 2012	Overall controls on the consistence of each request to the criteria provided by the Team. In depth random controls by the customs, excise and tax crimes Guard.	Controls on budgets and invoices
30th August 2011	Regional Government of Veneto declared the end of state of crisis.	Collection of information on damages for the final accountability of the recovery

the Country. Almost 3000 businesses were damaged, and livestock breeding suffered significantly with the death of 230,000 animals. There were 55 main roads seriously damaged, 51 landslides and 15 riverbank collapses. The situation was worsened by the floods submerging of one of Italy’s principal highways, which connects Milan to Venice and Eastern Europe. This had the result of slowing the early relief effort and also had an operational impact on the business activities of the Veneto Region for days after the disaster. Facing such disruption, national and regional governments were concerned about the entire economy of one of the most productive and rich regions of Italy and put in place a complete recovery and disaster relief program to help victims, businesses and municipalities. The overall damage bill was initially estimated as 700 million euro.

In response to this situation, the national government chose to provide initial funds and create an extraordinary, autonomous institution at the regional level that would be totally dedicated to the flood recovery. On November 5, a “State of Emergency for the territories of the Veneto Region” was announced, and on the November 13, the Italian Prime Minister issued a decree for the creation of a “Commissarial Organization” (commonly referred to as the “Flood Team”), naming the president of the Veneto Region the “Extraordinary Commissioner for the Reconstruction”, in charge of the recovery and reconstruction operations. The Flood Team was charged with managing the recovery and the proper allocation of the initial funds of € 300 million, which had been provided by the National government.¹ Additional funds followed later from the European Commission. The first (regional) response was immediately put in action (Table 7) with a separation of the responsibilities, functions, and activities. Since the ECR was also the president of the Veneto Region and a representative of a political party (the Northern League), he and the Flood Team were exposed to the risk of being held responsible for the disaster. Thus, the ECR claimed he wanted to focus on his solely operative role as the ECR and declared his willingness to play a neutral role in the recovery. As reported in an early press conference, the ECR stated that the emergency situation had to prevail over the political issues:

The citizens of Veneto are expecting an impressive sprint from us. Maybe this is the right opportunity to give to the whole community an unambiguous and bipartisan signal of commitment. In this situation, we cannot get lost in chit-chats, polemics or controversies (ECR Press Release no. 1980).

Furthermore, the ECR claimed that a transparent recovery procedure was necessary to prevent the recovery from the risk of corruption, which could negatively affect the equal allocation of relief funds. Just after his nomination, he declared that he

¹ The decree no. 3906/2010 at §10 stated the provision of national funds:

“1. For the works under this decree, a sum of three hundred million euro is made available by the Ministry of Economy and Finance.

1-bis. The resources referred to in §1 shall be used for: a. 150 million euro, for the relief program stated by this decree and the reimbursement of expenses incurred by Municipalities involved in the procedure and the Flood Team; b. 150 million euro, for public interventions of reconstruction by Municipalities or Regional government, aimed at reducing the hydrogeological risk in the Veneto region”.

would ensure transparency throughout the process and that the responsibilities would be assigned to the key players in the recovery:

We need everyone's help, especially the media and the press. We have to act quickly and with complete transparency; aids and reliefs must be provided first to the families and firms, damaged by the flood. [...] In this recovery, we do rely on the collaboration of key-players, such as the mayors of the municipalities and all the citizens and firms, for which we will immediately draft the guidelines with easy instructions. And to let them know what to do and how to act in this situation, we will need the help of all media and journalists (ECR Press Release no. 2052).

To coordinate the emergency procedures, the ECR recognized the need to involve municipalities and citizens in the accounting for emergency processes. Therefore, he charged the Flood Team with the *governance* of the overall recovery but delegated the responsibility for its *execution*—especially accounting for damages—to citizens, firms, and mayors of the flooded municipalities.

Specifically, with regard to recovery governance, the Flood Team comprised the *soggetti attuatori* (deputed officers), chosen from the administrative offices of the regional government. The ECR appointed the director of the environmental conservation regional office as Vice ECR, with the authority to act as his substitute. Other members of the Flood Team included 24 people who worked in regional offices and were assigned to supervise four main functions: (1) recovery and reconstruction operations for the hydrological system of Veneto; (2) coordination of the accounting for emergency and information systems; (3) controls over the damage claims, and (4) public relations and communications. More in detail:

- (1) the recovery and reconstruction operations of the hydrological system was supervised by twelve officers, such as civil protection directors, environmental conservation managers, and civil engineers;
- (2) coordination of the accounting for emergency and the information systems was supervised by eight officers, including financial directors, fiscal advisors, statistical experts, and computer specialists;
- (3) controls over the damage claims was managed by: (i) external officers appointed by mayors, (ii) the officers of the Italian *Guardia di Finanza* (custom, excise and tax crime guard); (iii) European Union officers;
- (4) public relations and communications were supervised by two other officers, public relations directors of the regional government.

While the Flood Team coordinated the different aspects of the recovery, the municipalities and the population were responsible for the operative management of the recovery, as claimed by the ECR:

My appeal goes to all the claimants of this territory, they have to team up and show how this region can prove and develop its strength to face the emergency, with energy and solidity (ECR Press Release no. 1965).²

5.2. Accounting for the response

In order to meet the requirements and the expectations of both the National government and all of those adversely affected by the flood, the ECR as the ultimate public officer responsible for the recovery process, needed a mechanism that would account for the use of these public funds. An “accounting for flood” procedure was then put in place to collect information and data related to the reimbursement of affected people and to give account of the flood consequences and the recovery results, which included a wide range of controls designed to monitor the reimbursement requests and the damage calculations submitted by citizens and firms. Since these funds were sourced from public money, their usage had to be tracked and verified.³ In this emergency situation, where transparency was desirable, the implementation of an “accounting for the flood” system and the execution of subsequent controls over the usage of public money were therefore necessary:

We have to act quickly and with complete transparency; aids and reliefs must be provided first to the families and businesses, damaged by the flood (ECR Press Release no. 2052). We are spending public money, thus we had to give account of the reimbursement provided to flood victims and the reconstruction works made. We must put in place an “accounting for flood” system (interview with the vice-ECR).

The accounting system and the controls not only assisted the ECR to collect descriptions of the damage and to apply for (Italian) central government and European funding, it also made the institutions engaged in the flood recovery process officially and accountable for their decisions and actions. An example of how the “accounting for flood” system offered the ECR and the Flood Team the possibility to formally account for their actions in the recovery, can be found in the report

² This and previous statements by the ECR, who was also a representative of the Northern League party, recall that “populism” attributed to this party by political sociologists (Woods, 1995; Agnew, 1995; Fremeaux and Albertazzi, 2002), which could act as a leverage to induce a sense of commonality among recovery players, all inhabitants of Veneto Region and unified by the so called “*Identità Veneta*” (see Section 4).

³ In his speech to the Veneto Regional Council, the 13th of November 2010, the vice-president of the European Commission Antonio Tajani illustrated how to access to the EU Solidarity Fund: “*The provision of funds can reach 2.5% of the total documented damage, but a careful estimate is needed, including any direct damage suffered not only by buildings and estates, but also by families, businesses and artistic heritage.*” (Giornale di Vicenza, “Tajani: from EC 25 million euros”, November 13, 2010).

Table 8

Main topics highlighted by the ECR in the report “Veneto Alluvionato” (“Flooded Veneto Region”).

Topics	Description
Damages	Accounts of the 426,000,000 € requested by 262 municipalities affected by the flood. The damages suffered by families, businesses, and for public operas are reported for each municipality. The report also emphasizes the consequences for businesses in terms of competitiveness and the time needed to rebuild their business.
Donations	Goods provided to flooded people. These are the goods the Civil Defense gave to flooded people, according to what the municipalities signaled.
Contributions	Contributions provided by public institutions, including the Italian government, private entities, and families. For donations more than 2000 €, a full disclosure was provided.
Resource allotment	Details about the resource allocation: families received 87,702,072.50 €; businesses received; 210,750,000.00 € were provided for the public works; and 8,647,392.18 € was allotted for other emergency expenses. The allocations were detailed for each municipality.
Construction sites	Highlights that 117 businesses, most of them Italian, were engaged in efforts related to the hydraulic safety of the territory and realization of new public works. A detail of the construction sites with works in progress or already finished also was provided.
Big reconstruction public works	Details of the river basin millworks and how they will reduce hydraulic risks in Verona, Vicenza, and Padua provinces.

475 “Veneto. La grande alluvione” (“Veneto. The great flood”). This report was released at the official end of the emergency phase
476 (August 2011) and represented a form of accountability by the ECR about the recovery process and the use of public funds for
477 relief and reconstruction. At the beginning of the report the ECR stated:

478 *I wanted to give an account of public and private money, which were collected and already handed out: it is a positive*
479 *balance and readable by everyone [i.e. the national representatives of Government and the flood victims, but also to the wide*
480 *range of people, organizations and institutions involved in the disaster] (“Veneto. La grande alluvione”, p. 3).*

481 The ECR collected information and data via this accounting system and was able to publicly account for the flood
482 consequences and the recovery results. Furthermore, the controls undertaken at the end of the relief process enhanced the
483 accuracy of the information provided in the final report:

484 *This publication delivers the result of a commitment to the populations affected by one of the most tragic floods of the last*
485 *two centuries in Veneto. The money allocated by the national government and the money collected from solidarity*
486 *campaigns were used to help individuals and businesses, and to re-build a devastated territory, which are now, for the most*
487 *part, completed (“Veneto. La grande alluvione”, p. 3).*

488 This document reports on the extent and costs of the damages suffered by each of the 262 municipalities affected by the
489 flood, and itemized the sources of the donations and the relief contributions that were received. Construction sites and
490 reconstruction works are described and their prospective costs disclosed (Table 8).

491 5.3. The design and implementation of the accounting system

492 Because the ordinary accounting systems of local and regional governments could not perform such a special task, a
493 specific accounting system had to be established. This system had to cover assessment of the damages experienced by
494 families, businesses and then record the expenditure for reconstruction. The process of accounting for the recovery meant
495 that the damages had to be estimated, expenses for reconstruction had to be traced and reimbursements to the victims had
496 to be verified and allocated:

497 *For the use of the resources provided by the national government, the opening of a special accounting system is authorized in*
498 *favor of the ECR (Decree of the emergency no. 3906/2010, §10, no. 2).*

499 Whilst accounting for the relief effort could have been performed by the Flood Team, this would have detracted from the
500 available time for the team to respond to the emergency, so the decision was taken to delegate the responsibility for
501 calculating the damages to individuals and the organizations responsible for the delivery of flood relief, with oversight of its
502 implementation being allocated to the municipal mayors.

503 *Everyone took responsibility. The ECR delegated many activities to the municipalities, while personally and daily checking*
504 *the situation. This is because the mayors are the “sentinels of the territory”, they have the social control of the territory and*
505 *are able to filter the information essential to the Region. The communities must learn to manage themselves independently,*
506 *clearly with the support of these institutions. In fact, we have experienced a social model based on few core values. People are*
507 *involved through the municipalities but they are not left alone. The collaboration with the mayors was essential and their*
508 *response was brilliant. By the way, given that the elections were far away, the mayors were not concerned about them.*
509 *However, I’m not sure that this model based on delegation would be easily exportable to other regions of Italy where*
510 *federalism is not so supported by the regional authorities (Interview with the Regional officer 1).*

511 We kept very close relationships with the municipalities because usually, especially during an emergency, citizens turn to the
512 municipalities and not to the Region (Interview with Regional officer 2).

513 This delegation is in line with responses to other significant floods that have recently occurred in Italy, such as Liguria,
514 2011 and Tuscany, 2012.⁴

515 The ECR made municipalities responsible for gathering and verifying all requests for reimbursement:

516 *I will give mayors money to reimburse their citizens for the flood damages [...]. The Regional government did not address*
517 *calculative practices and this was a great innovation in recovery processes. It was not usual to do so, but I wanted to give a*
518 *prompt response. At the moment, teams of experts are checking the requests. If someone pretended to be damaged by the*
519 *flood, he/she will be punish, in the interest of the genuine flood victims (Giornale di Vicenza, “ECR: I will give mayors the*
520 *money”, May 12, 2010).*

521 We identified that extraordinary formalized procedures had been established, in which determinations and calculations
522 had a twofold aim: firstly to support the reimbursement procedure and help victims, and secondly to support the
523 accountability process of the recovery effort and the public money spent by the ECR. Within these formalized procedures
524 outlined by the ECR, every player of the recovery had specific duties.

525 We identified that the ECR and the Flood Team had as their main responsibility, the arrangement of the “accounting for
526 flood” system, for the equitable allocation of reimbursement and for the control of damage claims. Moreover, the Flood Team
527 made use of a software, expressly created for the recovery program. By means of this software a database was created so all of
528 this information was accessible to the regional and municipal officers. The database provided information about the usage of
529 public funds by each municipality, making a distinction between funds for public works aims and funds to reimburse the
530 damages of private beneficiaries (citizens and firms). The distinction between public and private beneficiaries and the
531 further distinction for levels of urgency and type of beneficiary strictly followed the categories stated in § 1 of the Decree of
532 emergency no. 3906. For each category, the database provided more detailed information. With regard to funds for public
533 works, a distinction was made among interventions with different level of urgency: expenses for first-aid interventions;
534 extraordinary works; interventions of highest urgency, intervention of standard urgency. With regard to private
535 beneficiaries, the database provided a further distinction between citizens, manufacturing activities and factory farms
536 (Table 9).

537 The software was aimed to facilitate interaction and information sharing between the regional and the municipal officers.
538 Once the municipal officers had uploaded the damages data claimed by citizens, businesses and municipalities, the regional
539 officers could then sum the individual data to obtain information about the total amount of the damages of the Region.
540 Furthermore, the software provided more detailed information about the usage of the funds both to municipal and regional
541 officers, including: information about the number of the submitted applications, the total amount of resources made
542 available to each municipality, the expenses for public works and the financial aids provided to businesses and citizens.

543 We found that the *municipalities* had been charged by the Team with the execution of the relief program; specifically with
544 the collection and the control of applications for assistance and the distribution of reimbursements. In particular,
545 municipalities implemented the reimbursement procedure in four main phases (a) the collection of the damage claims
546 submitted by each family and business; (b) the provision of the deposits in advance to the applicants, based on their claims;
547 (c) the control over the reimbursement request comparing invoices and bills submitted by the claimants with the price list
548 released by the Flood Team; (d) the communication and the uploading *via* the software of the definite amount resting with
549 families and businesses, and the resulting balance of the advanced payments (Tables 10 and 11). As the mayor of one of the
550 municipalities explained:

551 *We re-organized our offices and arranged a dedicated front desk for managing the damages procedures and on which*
552 *municipal officers worked every day for the following year. They collected and processed the applications for reimbursement,*
553 *verified the request directly by visiting the property and then calculated the amount due as a damage refund (Interview with*
554 *municipal mayor 1).*

555 Such commitments were verified by the words of an administrative officer of one of the affected businesses:

556 *The Municipality intervened between the region and the flood victims. Some officers of the municipality came twice to our*
557 *property. The first time they verified if we have heard about the possibility to obtain a reimbursement; the second time to*
558 *check if we had the receipts and invoices of the expenses of the reconstruction works to attach to the reimbursement request*
559 *(Interview with business 3).*

560 Citizens and businesses were also involved in relevant aspects of the accounting procedure. If they needed to apply for
561 reimbursements for damage repairs and reconstruction works, they had to account for lost goods and estimate their

⁴ The website www.informazione.it offers the links to the forms to be filled for the flood occurred in Genoa and other minor towns of Liguria in 2011. Equally, the forms for the damages suffered during the flood of Grosseto and other towns of Tuscany in 2012 are downloadable from the website <http://iltirreno.gelocal.it/>. To the authors' knowledge, although in last decades floods have severely hit Italian territories – e.g. the 1998 flood in Sarno, a town close to Naples, where 160 citizens died (Mazzarella and Diodato, 2002) –, there are no previous contributions on the usage of calculative practices in recovery actions.

Table 9

A screen of the software dedicated to the “accounting for flood”.

Table 10

Municipal calculative table summarizing the data refinement process for families' damage claim.

Family's name	a	b	c = 75% × d	d	e = c – d	f	g = e – f
	Claimed damages	Documented expenses (invoices)	Documented expenses refundable	Insurance coverage	Actual refund	Advance payment	Final payment
...	3325.00	0	0	0	0	872.81	–872.81
...	1872.00	1147.60	860.72	0	750.00	524.10	225.90
...	79,626.30	69,855.08	52,391.31	0	39,517.72	15,647.14	23,870.58
...
...
...
Total	16,827,446.30	1,522,089.10	1,112,470.30	11,750.00	893,267.30	4,945,503.00	–4,052,236.00

Source: Authors' translation of a table provided by a municipality officer during an interview.

Column (a) reports the amount requested with the application for reimbursement; column (b) records the amount verified during the overall controls; column (c) calculates the refundable damage as the 75% of the actual damages according the Decree no. 3906/2010; column (d) checks for any insurance coverage; column (e) calculates the actual reimbursement due; column (f) considers the provision of a deposit in advance; column (g) quantifies the final payment due or to be return as the difference between the actual reimbursement and the deposit.

562 damages in terms of costs of replacement or reconstruction. They were asked to complete specific forms in which damages
 563 were classified in different categories. Citizens distinguished their damages into purpose-built real estate, registered
 564 personal property, and unregistered personal property. For purpose-built real estate, they had to account for damages to
 565 floors, plaster, machinery and fixtures and to document the expenses for restorations or replacement (Table 12). For
 566 registered personal property they were required to account for damages and restoration expenses related to such items as
 567 cars and motorcycles. For unregistered personal property like washing machines, refrigerators, freezers, televisions and
 568 kitchens they had to account for damages and clarify whether it would be possible to repair these property. The classification
 569 of damages for firms was similar. They needed also to indicate how many days they had had to stop their business activities
 570 and to account for the loss of inventories, livestock, plots and orchards. As highlighted by the Regional officers:

571 *We wanted to be very strict. We had public resources and we could not allow them to be allocated to subjects who did not*
 572 *properly meet our requirements to account for the damage suffered. We made only few exceptions for cases reported by*

Table 11

Municipal calculative table summarizing the data refinement process for businesses' damage claims.

Business's name	a Claimed damages	b Documented expenses (invoices)	c = 75% × d Documented expenses refundable	d Insurance coverage	e = c – d Actual refund	f Advance payment	g = e – f Final payment
...	479,489.35	0	0	0	0	75,000.00	–75,000.00
...	3837.10	0	0	0	0	0	0
...	4817.19	4014.32	3010.74	0	3010.74	1806.45	1204.29
...
...
Total	4,118,449.80	283,926.69	201,974.03	0	129,377.13	979,991.00	–850,613.82

Source: Authors' translation of a table provided by a municipality officer during an interview.

Column (a) reports the amount requested with the application for reimbursement; column (b) records the amount verified during the overall controls; column (c) calculates the refundable damage as the 75% of the actual damages according the Decree no. 3906/2010; column (d) checks for any insurance coverage; column (e) calculates the actual reimbursement due; column (f) considers the provision of a deposit in advance; column (g) quantifies the final payment due or to be return as the difference between the actual reimbursement and the deposit.

Table 12

Example of formats for the reimbursement request which was filled by citizens and businesses affected by the flood.

Mod. 2 – Privati
(Allegato 1-Beni Immobili
abitazione principale)

LUOGO DEL
COMUNE **COMUNE DI**

EVENTO ALLUVIONALE DAL 30/10/2010 AL 02/11/2010
Modello richiesta contributo per BENI IMMOBILI REGISTRATI

- Identificativo catastale dell'abitazione principale _____
- Indirizzo e mq _____
- Che a causa dell'evento l'abitazione principale è stata:
 - distrutta completamente
 - totalmente inagibile
 - di de localizzare
- Per danni riparabili compilare la seguente tabella

	Specificare i locali danneggiati	Tipo danno subito (descrivere il danno)	Valore economico presunto per la riparazione (Euro)	Eventuali spese già sostenute e documentabili (Euro)
1	Pavimenti			
2	Infornaci			
3	Integrità			
4	Impianti			
5	Influssi			
6	Altro (specificare)			

Che venga erogato un contributo a fronte dei danni subiti e quantificati in €.....
(il totale deve essere complessivo di IVA)

Note:
1 - Allegare, se disponibile, anche materiale fotografico o altro che possa documentare in maniera chiara il danno subito.
2 - Le unità immobiliari per cui viene richiesto il contributo sono state realizzate in conformità alle disposizioni previste dalla normativa urbanistica ed edilizia.

Data _____ Firma _____

Mod. 2 – Privati
(Allegato 3-Beni Mobili non Registrati)

LUOGO DEL
COMUNE **COMUNE DI**

EVENTO ALLUVIONALE DAL 30/10/2010 AL 02/11/2010
Modello richiesta contributo per BENI MOBILI NON REGISTRATI

Beni mobili NON REGISTRATI

Bene mobile	RIPARATO Bianco con una crocetta	IRREPARABILE Bianco con una crocetta	COSTO
Lavatrice	•	•	€
Frigorifero	•	•	€
Congelatore	•	•	€
Lavastoviglie	•	•	€
Cucina a gas	•	•	€
Stufa	•	•	€
Arredi cucina	•	•	€
Arredi Camera	•	•	€
Televisore	•	•	€
Aspirapolvere/lucidatrice	•	•	€
Ciclomotori	•	•	€
Altro _____	•	•	€
Altro _____	•	•	€
Altro _____	•	•	€

Che venga erogato un contributo a fronte dei danni subiti e quantificati in €.....
(il totale deve essere complessivo di IVA)

Ulteriori informazioni
1 Allegare, se disponibile, anche materiale fotografico o altro che possa documentare in maniera chiara il danno subito.
2 Allegare eventuali fatture per la riparazione dei beni indicati.

Data _____ Firma _____

573
574

individual mayors, of really extraordinary cases related to elderly people with limited financial resources (Interview with the Vice ECR).

575
576

Applicants had to fulfill the stipulated requirements for reimbursement and prove that they had incurred expenses by means of budgets and invoices. We identified that affected citizens were aware of these requirements:

577
578
579

The Region wanted me to estimate the damages and budget the reconstruction expenses. Then I had to complete an official request form with the evidence of the work and its costs and lodge these at the municipal office for processing (Interview with citizen 1).

580 Whilst applicants for relief lodged their requests with their municipality, the ECR had to give an overall account of the
581 damages that applicants had suffered from the flood and the allocation of the relief funds both to victims of the flood and
582 either to the national government, the European Union and all citizens.

583 5.4. The need for victims' involvement

584 From the beginning of the emergency, the success of the accounting procedures depended on collaboration occurring
585 between individuals and their municipality. The ECR soon became aware that he would not be able to have a direct
586 relationship with all of the players, so therefore he created a framework that sat outside of his direct control:

587 *Maybe the Region won't be able to meet the needs of all of the citizens affected by the flood, but through delegation to mayors*
588 *and municipalities, victims will perceive our support and our commitment in recovering as soon as possible (Giornale di*
589 *Vicenza, "By Christmas deposits will be made in advance for families and businesses", November 19, 2010).*

590 *In this recovery, we do rely on the collaboration of key-players, such as the mayors of the municipalities and all the citizens*
591 *and businesses, for which we will immediately draft the easy to understand guidelines and instructions. To let them know*
592 *what to do and how to act in this situation, we will need the help of all the media and journalists (ECR Press Release no. 2052).*

593 We found that to facilitate collaboration and create a common operating base, the procedure the ECR established included
594 the provision of instructions to municipal offices. We identified that 26 days after the flood, the Team released "*Alluvione che*
595 *fare*" ("Flood: what to do"), which were guidelines explaining the procedures required for victims to be able to access the
596 relief program. The guidelines and the requisite procedures were written in the form of frequently asked questions (FAQ) and
597 explained the process for calculating damage, and estimating and verifying costs. On the twenty-eighth of November, the
598 Team created an official web site to specifically assist citizens and businesses with the reimbursement procedures
599 (www.venetoalluvionato.it). Both the guidelines and the website aimed to illustrate the procedures and highlight the two
600 alternative deadlines for applying for reimbursements.

601 As stated by the ECR in his statement, he counted on the commitment of the mayors and showed to trust them:
602 municipalities had the responsibility to manage and control the accounts and the invoices.⁵ The first deadline for the
603 presentation of damage estimates and accounts for reimbursement was the sixth of December 2010. This date was set to
604 facilitate the disbursement of an advance before the end of that year. The procedure required the applicant to submit their
605 total estimate for the suffered damage, which was then verified by the Team and the municipality to assert whether the
606 victim was qualified for the advance (set at 30% of the request). This first deadline and advance was aimed at helping citizens
607 and businesses in need of money to begin their reconstruction works. Citizens and businesses were then qualified to receive
608 the residual of the funding if their claim was found to be accurate, or return the advance if they had not qualified.⁶ The
609 twentieth of February 2011 was the second deadline, and by this date, everyone who intended to seek a reimbursement, and
610 had not done so through the advance round, had to have submitted their request with final estimations, accounts and
611 receipts. These applicants submitted their requests for full reimbursement.⁷

612 We identified that the assistance provided by the ECR and the officers of the respective municipalities had been supported
613 by victims, who did not perceived the reports required by the authorities as an attempt to restrict them:

614 *To fulfill the request, I followed the guidelines released on the official website of the flood. The protocol was relatively simple*
615 *and easy to complete, especially considering that we live in Italy, a country strangled by red tape. I did not hear of any*
616 *problems neither from neighbors nor relatives (Interview with citizen 3).*

617 *Honestly, I had no difficult to understand how to complete the form. And, from home, with the internet connection, it was*
618 *easy to download the documentation. Perhaps older people may have encountered some difficulties, but special offices of the*
619 *city of [...] offered their help (Interview with citizen 7).*

620 5.5. Collaboration, solidarity, dialogue

621 We found that the necessity to account for damages and expenses prompted people to communicate with each other and
622 ask for advice. Though solidarity and mutual support may grow spontaneously in the context of a post-disaster recovery, in
623 this case of Italian flood recovery, we found that accounting took place in a context of collaborative behavior between the

⁵ Furthermore, in order to avoid distribution of favors and corruption of mayors and offer an image of full transparency, the ECR established a second round of controls on applications and invoices, independently and randomly performed by the Italian customs, excise and tax crimes guard. Section 5.6 will offer more details about this round of controls.

⁶ "The first estimate presented by the 6th of December, allowed to receive the 30% of the total amount in advance. This first estimation could be approximate. No controls were carried out on these first estimates for the provision of the deposit. As a result there were those ones who got a large deposit, since they claimed for a huge damage. In some cases, some of them had to return part of the deposit after the controls on the whole documentation." (Interview with municipal officer 2).

⁷ "We submitted all the documents, the budget and the invoices together with the filled request format. We did not need any deposit, so we apply at the second deadline. In this way, we could provide every invoice to prove the actual expense for reconstruction works" (Interview with business 4).

624 players engaged in the relief procedure, due to the common feeling of being all victims of the disaster. There were those who
625 asked their friends and neighbors:

626 *I helped almost all of my neighbors. In particular, individuals less accustomed to calculations had some difficulty in technical*
627 *issues and damage estimation. Even people with a high level of education needed help from a technical point of view. I gave*
628 *advice on how to find information and data for the estimates, but I was not asked for help filling the forms, since they were*
629 *relatively simple (Interview with citizen 6).*

630 Others reported seeking help through face-to-face dialogue with municipal officers. At the same time, when the Regional
631 officers reported modifying some of the forms citizens had to use to apply for reimbursements, they accurately advised all
632 the people dealing with the reimbursement procedure.

633 *The municipality also created a help-desk for people who needed help in the preparation of their claim for reimbursement.*
634 *The help-desk was operated by employees of the Municipality who were trained for this emergency procedure. The need for*
635 *this direct contact appeared clear, since the office was “flooded” with the people who needed help and information for the*
636 *reimbursement request (Interview with municipal mayor 2).*

637 *The forms provided during the first days after the flood were subsequently changed because applicants pointed out that there*
638 *was no opportunity to report certain types of damage which had occurred. As a result, the Region replaced them within*
639 *twenty days (Interview with municipal officer 1).*

640 *The municipality opened help desks both in the city center and in the suburbs. The offices were managed by municipal*
641 *employees who volunteered to help with the procedure. Once the offices opened, people came to ask for help in completing*
642 *the forms or to ask for information about the invoice they had to provide. (Interview with municipal officer 2).*

643 *I haven’t heard about any companies that did not make a request. The Municipality has always done the best to help people to*
644 *apply for reimbursement. I assume that the companies that did not require assistance were few (Interview with business 5).*

645 Municipal officers offered assistance to businesses, explaining the required procedures and providing advice on a one-to-
646 one basis. Whilst the support that resulted was more of an informal nature, the municipalities also offered support in
647 accordance with the tasks and stipulations delegated by the Flood Team, once the recovery structure was settled.
648 Municipalities arranged help-desks and door-to-door assistance to support the process of calculating the damage. Municipal
649 officers also communicated with affected citizens, explaining the procedures and assisting them personally with difficulties
650 in completing the requisite documentation.

651 *The Municipality remained in contact with the companies by e-mail. Actually every affected citizen and business was*
652 *recorded on a database and received communication by e-mail on the status of their reimbursement process. The person in*
653 *charge contacted people directly giving specific information on what they must do to obtain the payment they were entitled*
654 *to. The person in charge was aware of each individual’s particular situation. The support of the municipality officers and their*
655 *explanations helped citizens understand where problems were generated from the regional level. The municipality found*
656 *itself dealing with some difficult situations as well as working within the tight deadlines required for application submission.*
657 *In order to make sure that everyone entitled to reimbursement would receive it, the municipality created a network of*
658 *communication and was in constant contact with those affected by the flood. Whenever the municipal officer in charge of this*
659 *work asked for documentation they explained the reason and we understood that there was a genuine need and it was not an*
660 *unwarranted request. The difficulty completing documentation was always resolved by the employees of the Municipality*
661 *and where they identified errors or problems with the application, they contacted the company for clarification and*
662 *explained where the difficulties lay. The city employees were exemplary, because once they received the management*
663 *procedure from the Region they studied it so they were able to respond and provide details to the request of individuals. The*
664 *reasons were frequently linked to new procedural requirements from the Region (Interview with business 5).*

665 The presence of help desks and door-to-door assistance supported victims in the application for reimbursement process,
666 and it provided the ECR with information about the extent of the damage and assisted with his justification of the use of
667 public money for which he was responsible. As a consequence, the ECR and the Flood Team achieved a level of personal
668 understanding of the impact of the flood on the lives of individuals. The presence of dialogue between municipalities and
669 victims was evident in several interviews, but the following opinion expressed by the administrative officer of an affected
670 business is noteworthy:

671 *Here in the Municipality of [. . .], the employees were diligent. Every time they received new instructions from the Regional*
672 *government, only after they went through them, they contacted flood victims, explaining in detail the new procedure. In*
673 *particular, the person in charge of this recovery office was always there, explaining what to do and responding to every*
674 *question or doubt we had. In case of errors or problems with the information we provided, the officers always called us to*
675 *make sure we addressed the error. The person in charge even called people directly, giving specific advice on how to proceed*
676 *to obtain prompt reimbursement (Interview with municipal officer 2).*

677 Municipal officers not only dialogued with the victims of the flood, but also with the Flood Team. They asked the Region
678 for help with the interpretation of Decrees and the associated procedures. They identified special cases which required
679 special consideration. The Flood Team also organized several meetings with mayors and municipal officers to answer
680 question and deal with their concerns. During one of these meetings, the vice-ECR, formally recognized the importance of the

681 work that was being undertaken by the mayors and municipal officers, and acknowledged the effectiveness of their
682 communication with citizens and members of their municipality:

683 *It might not be possible for the Region to meet the citizens of all the municipalities affected by the flood, but by means of the*
684 *involvement of the mayors they will feel our closeness and our commitment to respond to the disaster as soon as possible*
685 *(Giornale di Vicenza, “Within Christmas deposits in advance for families and businesses”, November 19, 2010).*

686 5.6. The controls over calculative practices

687 The recovery procedures also involved controls of all the submitted requests, for both the advances and reimbursements:

688 *We chose to provide payments in advance on the basis of trust, but for the full payment receipts, invoices or budgets were*
689 *necessary (L’Arena, “Reimbursement, but not for everyone, January 5, 2011).*
690 *In March 2011 controls were initiated. Volunteers from the municipal offices and external technicians were enrolled to run*
691 *controls on each request submitted by families and businesses. Each controller was allocated 20 requests to process and could*
692 *gain access to the Regional database where all the requests were recorded. After checking the documents, they ran the*
693 *controls directly on the properties of each requesting citizen to verify accuracy and the causality of the damage (Interview*
694 *with municipal officer 2).*

695 These controls were established in response to a generalized fear of free-riding and to minimize error or fraudulent
696 behavior.

697 *The opportunists will not get any money. The Region and the municipalities will carry out controls on all the submitted*
698 *requests. No one should dare to think of getting away with it (Giornale di Vicenza, “Tajani: from EC 25 million euros”,*
699 *November 13, 2010).*

700 The controls were delegated to municipalities and aimed to verify the accuracy of all the requests. These controls covered
701 every single request of reimbursement. Each request was compared with the criteria outlined in the procedures. Municipal
702 officers assigned the controls to external experts (i.e. surveyors, inspectors), who had firstly to independently verify if the
703 application for damage reimbursement was caused by the flood or due to another cause. Secondly, they had to verify the
704 adequacy of the request by checking whether the budgets and the invoices corresponded to the expenses reported. Thirdly,
705 to determine the maximum amount that could be reimbursed, they had to compare the request with a price list drafted by
706 the Flood Team. This list itemized each type of reconstruction work and property, for which a price ceiling was also
707 established by the Veneto Region with the Ordinance no. 22/2011 (following the Decree no. 3906/2010).

708 *In the case of the incorrect provision of money, based on false declaration, there will be the controls at municipal level, and I*
709 *have complete confidence in the mayors.” (Giornale di Vicenza, ““I would like less suspects”: interview with Zaia”, December*
710 *19, 2010).*

711 Moreover, the Italian government (represented by the Italian customs, excise and tax crimes guard) ran subsequent
712 controls (i.e. audits) on the reimbursement procedures submitted by citizens and firms. The controls were random and
713 covered only a part of the overall requests. The officers deputed to such controls directly accessed the offices of the
714 municipalities, where the requests were processed, and the houses and the businesses of the victims, who submitted the
715 requests.

716 Controls were also run by European Commission on the usage of the flood recovery funds that were provided to the
717 Veneto Region⁸:

718 *Inspection in the Veneto region was undertaken today by the inspectors from the European Commission, responsible for*
719 *checking if the EU funding for the flood emergency has been spent properly and effectively (Giornale di Vicenza, “Flood:*
720 *European inspectors check the expenses of Vicenza”, November 9, 2012).*

721 Officers of the European Union visited the place hit by the flood and controlled the requests of reimbursement presented
722 by citizens, businesses and municipalities by meeting the officers of the Veneto Region. All these controls were aimed to
723 prevent misconduct and misappropriation on the part of people engaged in the calculative practices, to prevent reputational
724 damage of the Regional government and to guarantee equality in the compensation process for everyone adversely affected
725 by the flood.

726 The controls led to additional interaction among citizens and officers. Victims accepted the necessity for and the
727 importance of these controls:

728 *I ask for the full commitment of everyone because these controls are necessary to guarantee equity in the recovery for each*
729 *flood victim (L’Arena, “Scrap cars and fridges: experts count for damages”, January 22, 2011).*

⁸ “Today, Johannes Hahn, European Commissioner for Regional Policy, confirmed the Commission’s proposal to allocate € 16.9 million to the Veneto region in Italy to cope with the consequences of the severe rainfalls of October 2010. The grant is being made available through the European Union Solidarity Fund (EUSF). It will contribute toward the costs borne by public authorities in response to the emergency, in particular for restoring essential infrastructure” (European Commission Press Release IP/11/1363, November 17, 2011).

The municipal and external experts were always received fairly well, because the victims knew the controls were not due to a lack of trust, but would guarantee equity in the reimbursement procedure (Interview with municipal officer 2). I did not perceive any pressure during the controlling phase. I did everything according to the rules, I had nothing to hide and I presented every document to the municipal expert. I was relieved about knowing about the controls covering requests. In this way no one could mislead the procedure and take advantage of the situation, as frequently happens in Italy (Interview with citizen 8).

Even citizens' words do not prove the complete absence of fraud or free-riding, they provide evidence of citizens' substantial trust in the process. In particular, these controls were largely accepted by citizens and businesses and were not perceived as mistrust of their estimates, but rather were seen as a tool to assure equity and avoid corrupt behavior. Although in some of the ECR's declarations it is possible to identify the objective of monitoring applicants, the controls run by officers were not perceived as such by the victims:

The municipal officers were received quite well by the flood victims because they have always thought that the reason for some mistakes related to the Region and not the municipalities (Interview with municipal officer 1). The request for additional information was provided directly to the flood victims by the municipality, but we understood that it was always justified and explained in relation to new demands from the Region (Interview with business 5).

The controls which started in March 2011 lasted one year, because every request had to be checked directly against each claimant. At the end of this process, the amount requested could be confirmed, revised or denied. Moreover, some deposits had to be return, despite there being no conditions specified for this. Every municipality was required to record the results of their allocation decisions using dedicated software, matching each single request with the results of the assessment controls and calculating the final amount due or to be return.⁹

These controls favored the development of dedicated accounting practices, and appeared to strengthen a sense of interdependency among all the players of the recovery. Because of these controls, people were able to understand that they were part of a bigger picture, of which their own individual reimbursement was merely a sub-set.

6. Discussion

6.1. The enactment of accounting in flood recovery contexts

The critical accounting literature reports investigations in contexts such as communities (Jacobs and Walker, 2004; Jayasinghe and Wichramasinghe, 2007), homes (Walker and Llewellyn, 2000) and in the public/political sphere (Sinclair, 1995; Broadbent et al., 1996; Broadbent and Laughlin, 2003; Bovens, 2005), but the context of disaster recovery still remains under investigated. To the best of our knowledge, this is the first study that critically analyzes the effects of the use of accounting in implementing a flood recovery process and, more generally, a natural disaster.

The flood recovery process of the Veneto Region has shed light on the use of accounting in an emergency situation, where there is increasing complexity, and equity and transparency are essential requisites. Despite the literature reporting that mechanisms to assess whether recovery funds were well spent are often weak or missing (Labadie, 2008), we have found that accounting can be a suitable tool for responding to and accounting for disastrous events, even when such a setting requires attention to solidarity and equality, not to performance.

The establishment of a responsive Italian flood accounting system was achieved through the allocation of formalized procedures and calculative duties to all of the players involved in the recovery. The system facilitated an account of the conditions in which the Flood Team operated, and the results of the actions undertaken by the Regional government in responding to the emergency. Financial data was able to be collected which was then used to publicly account for how the recovery process had operated. This data allowed the ECR to describe the costs and extent of the damage suffered by each of the 262 municipalities, and to account for the donations and contributions from Government and other sponsors along with the reimbursements that were provided for reparation and reconstruction.

Contextual conditions favored regional governors implementing the accounting and accountability system because the Region acted as an autonomous body with its own legislative, administrative and executive functions, and the President of the Region, acting as the ECR, was given the task of autonomously managing the emergency operations by the national government. The ECR then had the possibility to form a Flood Team with calculative and communicative skills required to deal with accounting and accountability issues. Mayors and officers of municipalities involved in the flood were able to act as territory "sentinels", with their extensive knowledge of the territory and their ability to reach citizens "face-to-face".

Furthermore, the decentralization of the reimbursement procedure by mean of the accounting system was interpreted as a challenge by the regional government to demonstrate the strength of its local autonomy. The fear of free-riding, as well as the desire to avoid involvement in fraudulent and corruption episodes, which had been experienced in other Italian natural disasters, led local governors to enact this accounting system and to emphasize the role of "numbers" in producing equity among victims. With his populist rhetoric, underlined by political sociologists (Wood, 1995; Agnew, 1995; Fremeaux and

⁹ Tables 9 and 10 illustrate the information recorded by a municipal office on each requests submitted by families and businesses.

Albertazzi, 2002), the ECR stimulated the so-called “*Identità Veneta*” which characterizes Venetian population (Dalla Zuanna et al., 2004; Lorenzetto, 2010), thus reinforcing a sense of commonality among the victims. In brief, our research found that accounting plays a central role in disaster management and reporting, and it can therefore act as an analytical tool (Jones and Dugdale, 2001) both for the victims seeking assistance for damage compensation and for those with overall responsibility for the recovery process and its outcomes, especially if contextual conditions can favor system recovery design and enactment. In this respect, we also provide more evidences about the role of accounting as a “key facilitating technology” in managing recoveries (Walker, 2014). Nevertheless, the “concern with the contexts of accounting” (Miller, 1994, p. 5) cannot be underestimated as contextual conditions may facilitate or obstruct accounting functioning in both organizational and social settings (Burchell et al., 1980; Hopwood, 1983; Roberts and Scapens, 1985). While our research highlights the central role of accounting in accounting for natural disasters, results could differ in other flood or disaster contexts where institutional and social conditions are different. Further comparative research may address this issue.

6.2. Victims as accounting “participants”

According to the rigorous procedures released by the ECR and the Flood Team, which were delegated to municipalities and affected people, the flood victims did not only account for their damages, but became active “participants” (Munro, 1996) of the accountability process. The delegation of duties to municipalities and victims at the beginning of the recovery effort constituted a form of individualization in the accountability process (Roberts, 1991).

The development of the accounting and accountability systems was multi-tiered. Firstly, the ECR connected with the Flood Team, who in turn connected with the municipal officers to explain the control procedures and the rules. The municipal officers were then connected to the applicants to apprise them of the controls in the form of requirements. Such coordination helped the citizens understand the need for formalized calculative practices and specified controls and facilitated their acceptance as a mechanism to guarantee equity throughout the recovery. On the officials' side, the accounting procedures ensured that the officers were able to gain an inside view into how affected citizens were experiencing the flood. This accounting system required the officials charged with the recovery, to publicly explain and justify their decisions and actions to both the government and their communities (Bovens, 2005). On the victim side, accounting practices permitted a visibility that was necessary to obtain reimbursement for their damages.

Thus the accounting for flood system and the related calculative practices did not lead officers and citizens to shelter behind their positions and to self-promote (Roberts, 2001); it actually made everyone aware of their role in the recovery process (Bryer, 2011). We found that the introduction of rigid calculative practices only partially developed an inward focus on damages suffered and the individual reimbursement, whilst it facilitated communication between the parties and a shared view about the impact of such a disaster (Roberts, 2001, 2009). Accordingly, there is no sign of the “individual competitiveness” that Roberts (2001) associates with the individualizing potential of accounting because citizens had to cooperate among themselves (and with local authorities) to figure out how to account for their damages. The “particular form of visibility” (Miller, 1994, p. 2) created by the accounting procedure was welcomed because affected people and businesses were aware that accounting for the incurred damages was the only way to obtain a reimbursement. Effectively accounting was aimed to function in favor of its “objects”, as it helped to construct visibilities (Miller and O’Leary, 1987) about the financial needs of citizens, businesses and municipalities affected by the flood. At the same time, in the weeks following the tragedy, citizens received reassurances about the possibility to receive reimbursements. The ECR provided reassurance about the financial support being made available by the national government and the European Community. Moreover, the possibility to receive immediate advance payments (30% of estimates of the damages suffered) encouraged victims to use the required calculative devices and minimized potential resistance. The wide forms of collaboration offered by local officers, including the establishment of help desks in each affected municipality to respond to the concerns of the flood victims, represented additional drivers for the engagement of victims in the calculative practices.

At the same time, some individualizing effects might have occurred at the level of the entire local population. With their preoccupation to receive media and political attention and obtain reimbursements, the flood victims developed a sense of common victimization, which makes them act as a local community against the rest of the Country. Once again, the federalist discourse existing in this context (Bernardi, 1986; Dalla Zuanna et al., 2004; Lorenzetto, 2010) may have played a role in creating a separation between this local community and the Central State.

Accordingly, our study widens the scope of considerations about the individualizing and socializing role of accounting (Roberts, 1991, 1996), because it shows how calculative practices may facilitate the “encounter” between the accountant and the accountee, thereby collectivizing a process that could instead result in a form of solitary. The system effectively facilitated the link between the ECR and all the players in the recovery, in a context where interaction and communication were necessary to address the collective nature of the tragedy. Since “accountability pivots [...] on analysis of the methods by which participants engage in accountability relations” (Munro, 1996, p. 4), accounting may act as an important driver of engagement if it is favored by contextual conditions and combined with other accountability tools.

6.3. Trust in calculative practices

In a situation of tragedy and emergency, calculations undertaken by individuals are potentially open to the risk of opportunistic damage claims in order to receive higher refunds. Citizens and businesses could try to take advantage of the

840 tragedy, seeking to account for their damages in misleading ways so as to obtain greater reimbursement than they are
841 actually entitled to. The prevailing of self-interest over the common interest could have led to undermine the accountability
842 of the recovery.

843 The delegation of calculative practices to the flood victims generated a process which allowed the establishment of a wide
844 range of controls over the citizens and businesses on the calculations related to reimbursement for damage. Such controls
845 increased the credibility of the accounting process, demonstrating that accounting practices were able to create trust among
846 the players of the recovery.

847 The continuous dialogue amongst players at different levels helped flood victims to realistically estimate the damage they
848 had incurred, thus fostering unquestionable accountability about the recovery, because it was based on factual data.

849 The implementation of the accounting system and the subsequent controls also facilitated a significant level of
850 accountability about the actual consequences of the flood and the subsequent transparent reporting of the expenses.
851 Interactions and controls therefore prevented the occurrence of some of the individualizing effects reported in the literature,
852 because municipal officers and victims were part of the production of information process and acted as witnesses to the
853 actions of those responsible for reporting on the use of public monies.

854 While Jayasinghe and Soobaroyen (2009) have shown that where the accountee is highly confident that the accountant
855 will behave equitably and fairly there may be no need for formal accountability, our research found that formal calculative
856 devices and related controls over accounting practices can strengthen critical accountability relationships amongst the
857 players and institutions engaged in natural disaster recovery. Thus this paper offers insights to investigations on the
858 introduction of accounting practices and the identification of the reactions of the players engaged in calculative practices at a
859 community level. Given the risk of opportunistic behavior, fraud and corruption, accounting favored “trust in numbers”
860 (Porter, 1995) with its ability to “standardize” decisions and transcend authoritative subjectivism. The engendered “trust”
861 benefited from the contextual conditions of the federal discourse, with the controls being mainly run by local officers and
862 experts appointed at local level, and the national customs, excise and tax crimes guard performing their job in a subsequent
863 phase. Given that “numbers” had the power to orient the politics for flood protection (Samiolo, 2012), future research could
864 explore how such power changes when an “extraordinary” flood recovery plan must be implemented.

865 6.4. The social potential of accounting

866 Whilst accounting practices are considered to be rational tools for measuring individual and organizational performance,
867 our paper offers a critical perspective on how accountability benefited from the interaction of the individual players during
868 recovery. In a context receptive to cohesion, accounting did not just emerge as a device for taking account of the damages
869 suffered and focusing on single individual's reimbursement. Flood victims accepted their role in the system and
870 demonstrated trust to the accounting process, thus sustaining the accountability of the recovery process. Importantly, the
871 accounting system enabled the growth of relational activities through which participants learnt and developed an
872 understanding of themselves in relation to other players (Bryer, 2011), confirming the idea that accounting is both a social
873 and institutional practice (Miller, 1994). According to Habermas (1971), who argued that interactive communication
874 occurred in the context of an encounter amongst the participants – a view later supported by Roberts (1991, 1996) – we
875 demonstrated that the accounting procedures and the consequent accountability of the flood recovery encouraged an
876 iterative process (Yakel, 2001) where participants could reciprocally take and give accounts of their actions and the actual
877 damage. Whilst Bryer (2011) highlighted that accounting practices might create a form of inter-dependency between
878 industry workers, this paper offers new insights into how accounting may favor interaction between participants who do not
879 usually operate in the same institutional/organizational context. The ECR and the Flood Team on one side, and the victims on
880 the other side only interfaced as a consequence of this unanticipated event. They came from entirely different “spaces” to
881 engage in a shared calculative practice which we have argued was not subject to the negative individualizing effects that can
882 undermine accountability.

883 Facilitated by that common feeling of being all victims of the disaster, the social potential of accounting inside the local
884 community became apparent in different forms: it enhanced dialogue, *mutual understanding*, *trust* and *solidarity* among the
885 players of the flood recovery.

886 We found that the flood recovery accounting system fostered dialogue. All the institutions and citizens engaged in the
887 recovery found accounting a valuable practice for communicating needs and actions. In particular, without calculations
888 formalized by the ECR, citizens did not have any possibility to apply for a refund and to demonstrate their damages. Dialogue
889 occurred even among individuals who were not usually tied by accountability relationships, with accounting fostering
890 communication among peers. It induced citizens to ask their friends, relatives and neighbors for suggestions about how to
891 complete the accounting forms. Our findings concur with Morgan's view (1988) that accounting represents a form of
892 dialogue between all of the participants and it was able to foster a socializing effect. Dialogue occurred among citizens and
893 across hierarchies, collectivizing a process which would otherwise have remained more individualistic. In this respect we
894 support and extend Roberts' (1996) arguments of “the possibilities for dialogue” to be developed by means of accounting and
895 other accountability tools.

896 Accounting also favored *mutual understanding* among the players of the recovery, freeing them from hierarchies. In
897 particular, accounting provided the basis for players to modify their actions. The accounting system made “visible” in the
898 first two months of the recovery, low levels of request for reimbursement and some mistakes in the forms that had been

submitted. This made the ECR realize there was a need to change some deadlines and to better explain the conditions under which citizens could seek funding. Citizens were offered the possibility to correct their preliminary estimations made during the first days after the flood and resubmit their forms.

In brief, accounting implemented as a formalized procedure did not undermine the responsibility of those in charge of the relief, it facilitated mutual understanding of the situations and actions among all the players of the flood recovery. Accounting here confirmed its role as a mediator of interests and views by “manifest[ing] and encourag[ing] social consensus as a collaborative practice by which individuals can express their particular concerns” (Bryer, 2011, p. 491).

Thirdly, accounting fostered *trust* in the accounting process itself. Since accountability was based on rigorous accounting procedures, anyone directly or indirectly involved in the flood relief program could rely on the disclosure of recovery aims, processes and results. Once accounting procedures became accepted by victims with their direct engagement in calculative practices then they generally did not question the ECR actions. In this respect, accounting rendered the recovery process trustworthy (Porter, 1995) and it favored victims’ trust in initial statements and subsequent actions of the officers.

Lastly, in this emergency setting, where mutual support is desirable and may have acted as a pre-condition in this specific context of strong local identity, we found that the accounting system supported *solidarity* between the victims and those making the decisions about the disbursement of the funds. Even if solidarity can develop without accounting in such disastrous situations, in this Italian flood recovery it gave visibility to the needs of victims, to local authorities, national and international institutions and private funders. The accounting system was able to improve that sense of solidarity by creating a common and unambiguous language, which supported the sharing of information about the needs of flood victims and the possibilities to assist them. In this sense accounting practices helped the cooperation and cohesion among victims and public and private funders, who recognized themselves as all “members of an identifiable community” (Panozzo, 1996, p. 194). Therefore, the accounting system resulted to have conveyed solidarity among all the recovery players by making the recovery and the distribution of money and resources to the victims a reliable process.

7. Conclusions

Our analysis of the 2010 Italian flood recovery has highlighted the potential for accounting to be used to enhance accountability through a relational and conversational path that involves people, businesses and municipalities in accounting practices. During the emergency, the accounting system served to calculate and provide the reimbursements sourced from public money, and to implement controls to ensure equality in the distribution of the relief program. However, it also served to account for the damage suffered by the people and the cities. Accounting is therefore not simply a tool to rationalize the irrational or to reinforce hierarchical power relations; rather it assisted individuals to articulate their particular needs and supported their learning and development of understandings about themselves and others (Roberts, 2001; Bryer, 2011). As opposed to the context of Hurricane Katrina, in which Baker (2014) found that accountability failed because of institutional racism already existing in the context, we have shown how calculative practices, instead of being an obstacle, can facilitate the dialogue between the accountant and the accountee. Actually, accounting practices fostered participation and communication among the local population, developing forms of socialization among the victims. Some individualizing effects occurred, but at the level of the local population. Stimulated by the federalist discourse that characterizes this context, the local population developed a sense of “victimization” against the rest of the Country.

We therefore extended the work of Roberts (1991, 1996) by investigating a different and unusual context and show how accounting may enhance the “possibilities of accountability” with individualizing and socializing effects, which show to be closely entangled. Both individualizing and socializing processes cannot be defined as innately positive or negative, but should be studied without moral preconceptions about their potential effects. Our findings also indicate that accounting – conveniently intertwined with other accountability devices – can facilitate cooperation and dialogue between all of the people involved in the emergency and recovery periods. The adoption of an effective accounting system combined with formalized communication mechanisms may enhance the communication of relevant information between all of the parties, up to a citizens’ engagement in the accountability process. Similar engagement characterizes recent collective accounting projects aimed to favor transparency.¹⁰ Fostering this two-way flow of information along the length of the recovery chain, may facilitate a constructive dialogue amongst the players, about the actual damage created by a natural disaster and the restorative action required. Consequently fair and equitable reimbursement of victims and the creation of a factual account of the implementation and outcomes of the recovery initiatives may be possible. Effectively, the social and institutional context plays a constitutive role in the acceptance, enactment and trust in accounting and accountability (Hopwood, 1983; Roberts and Scapens, 1985). This cannot be neglected by officers engaged in the recovery from a natural disaster.

This study offers a starting point for future research into the use of accounting in the context of natural disasters. Further research could investigate how calculative mechanisms used after natural disasters impact on social relationships, and in particular the role and contribution of the victims. Studies on other flood tragedies and on different types of natural disaster should also be conducted in order to verify whether the effects accounting produced in the 2010 Italian flood recovery

¹⁰ In this respect, here we limit to mention the “Big Society” policy that was the flagship policy idea of the 2010 UK Conservative Party general election manifesto, and the “Public Engagement” initiative that the in-charge municipality of Chicago (Illinois) recently established with the aim of empowering citizens through digital media.

represent a unique case or a “natural” effect in disaster and emergency situations. Thought this paper did not directly discuss any ethical dimension of accountability (Roberts, 1991; Cooper and Owen, 2007; Shearer, 2002; Messner, 2009; Joannides, 2012; McKernan, 2012), our results within the context of a natural disaster recovery might inspire future research. Accordingly, future studies may deepen the perceptions of victims using accounting, whether it is perceived as “ethical violence” (Butler, 2005) or it contributes to increase responsibility for others (McKernan, 2012). Moreover, beyond the peculiarity of disaster recoveries, the paper offers insights to further deepen the relationships between accounting and popular culture (Jeacle, 2012) and the effects that populist discourses may have on citizens’ engagement into collective accountability projects. Finally, the consideration of peculiar settings where accountability relationships are not fixed, and different “players” are involved in accounting practices, offers fertile ground for future investigation.

Q3 Uncited references

Bovens (2007), Bovens (2010), Broadbent (2002), Brunetti and Rullani (2006), Day and Klein (1987), Jönsson (1996), Laughlin (1996), Merleau-Ponty (1962), Olshfski (2005), Pollitt (2003), Romzek and Dubnick (1998), Schwartz and Sulitzeanu-Kenan (2004) and Stella and Schei (2000).

References

- Agnew JA. The rhetoric of regionalism: the northern league in Italia politics. *Trans Inst Br Geogr* 1995;20(2):156–72.
- Agnew JA, Brusa C. New rules for national identity? The Northern League and political identity in contemporary Northern Italy. *Natl Ident* 1999;1(2):117–33.
- Ahrens T. Financial and operational modes of accountability: differing accounts of British and German managers. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 149–63.
- Alexander D. *Natural disasters*. London: Springer; 1993.
- Alexander D. The study of natural disasters, 1977–1997: some reflections on a changing field of knowledge. *Disasters* 1997;21(4):284–304.
- Q4 Baker R. Breakdown of accountability in the face of natural disasters. The case of the Hurricane Katrina. *Crit Perspect Account* 2014. [in press].
- Barredo JL. Normalised flood losses in Europe: 1970–2006. *Nat Hazard Earth Syst Sci* 2009;9:97–104.
- Belussi F, Gottardi G, Rullani E, editors. *The technological evolution of industrial districts*. Amsterdam: Kluwer; 2003.
- Bernardi U. *Paese Veneto. Dalla cultura contadina al capitalismo popolare*. Firenze: Edizioni del Riccio; 1986.
- Boden R. Figure it out for yourself: financial reporting, accountability and the self-employed. *Crit Perspect Account* 1999;10(1):37–62.
- Bovens M. Public Accountability. In: Pollitt C, Lynn LJ, Ferlie E, editors. *The Oxford handbook of public management*. Oxford: Oxford University Press; 2005. p. 182–208.
- Bovens M. Analysing and assessing accountability: a conceptual framework. *Eur Law J* 2007;13(4):447–68.
- Bovens M. Two concepts of accountability: accountability as a virtue and as a mechanism. *West Eur Polit* 2010;33(5):946–67.
- Broadbent J. Critical accounting research: a view from England. *Crit Perspect Account* 2002;13(4):433–49.
- Broadbent J, Dietrich M, Laughlin R. The development of principal-agent. Contracting and accountability Relationships in the public sector: conceptual and cultural problems. *Crit Perspect Account* 1996;7(3):259–84.
- Broadbent J, Laughlin R. Control and legitimation in government accountability processes: the private finance initiative in the UK. *Crit Perspect Account* 2003;14(1–2):23–48.
- Brunetti G, Rullani E, editors. *Change. Il paese, l'impresa, le persone*. Milano: Egea; 2006.
- Bryer AR. Accounting as learnt social practice: the case of the empresas recuperadas in Argentina. *Account Org Soc* 2011;36(8):478–93.
- Bryer AR. Conscious practices and purposive action: a qualitative study of accounting and social change. *Crit Perspect Account* 2014;25(2):93–103.
- Burchell S, Clubb C, Hopwood AG, Hughes J, Nahapiet J. The roles of accounting in organizations and society. *Account Org Soc* 1980;5(1):5–27.
- Butler J. *Giving an account of oneself*. New York: Fordham University Press; 2005.
- Caker M. Customer focus – an accountability dilemma. *Eur Account Rev* 2007;16(1):143–71.
- Carnegie GD, Napier CJ. Critical and interpretive histories: insights into accounting’s present and future through its past. *Account Audit Account J* 1996;9(3):7–39.
- Cooper SM, Owen DL. Corporate social reporting and stakeholder accountability: the missing link. *Account Org Soc* 2007;32(7–8):649–67.
- Dalla Zuanna G, Rosina A, Rossi F, editors. *Il Veneto. Storia della popolazione dalla caduta di Venezia a oggi*. Venezia: Marsilio; 2004.
- Day P, Klein R. *Accountabilities: five public services*. London: Tavistock; 1987.
- Fremaux I, Albertazzi D. Discursive strategies around “Community” in political propaganda: the case of Lega Nord. *Natl Ident* 2002;4(2):145–59.
- Gray R, Owen D, Adams C. *Accounting and accountability: changes and challenges in corporate social and environmental reporting*. London: Prentice-Hall; 1996.
- Habermas J. *Towards a rational society*. London: Heineman; 1971.
- Hopwood AG. On trying to study accounting in the contexts in which it operates. *Account Org Soc* 1983;8(2–3):287–305.
- Hopwood AG. Accounting and organization change. *Account Audit Account J* 1990;3(1):7–17.
- Jacobs K, Walker SP. Accounting and accountability in the Iona Community. *Account Audit Account J* 2004;17(3):361–81.
- Jayasinghe K, Soobaroyen. Religious “spirit” and peoples’ perceptions of accountability in Hindu and Buddhist religious organizations. *Account Audit Account J* 2009;22(7):997–1028.
- Jayasinghe K, Wichramasinghe D. Calculative practices in a total institution. *Qual Res Account Manag* 2007;4(3):183–202.
- Jeacle I. Accounting and popular culture: framing a research agenda. *Account Audit Account J* 2012;25(4):580–601.
- Joannides V. Accounterability and the problematics of accountability. *Crit Perspect Account* 2012;23(3):244–57.
- Jones TC, Dugdale D. The concept of an accounting regime. *Crit Perspect Account* 2001;12(1):35–63.
- Jönsson S. Decoupling hierarchy and accountability: an examination of trust and reputation. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 103–17.
- Kirk K, Mouritsen J. Spaces of accountability: systems of accountability in a multinational firm. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 245–60.
- Labadie JR. Auditing of post-disaster recovery and reconstruction activities. *Disaster Prevent Manag* 2008;17(5):575–86.
- Laughlin R. Principals and higher principals: accounting for accountability in the caring professions. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 225–44.
- Laughlin R. A model of financial accountability and the Church of England. *Financ Account Manag* 1990;6(2):93–114.
- Lorenzetto S. *Cuor di veneto. Anatomia di un popolo che fu nazione*. Venezia: Marsilio; 2010.
- Lowe A, Locke J, Lymer A. The SEC’s retail investor 2.0: interactive data and the rise of calculative accountability. *Crit Perspect Account* 2012;23(3):183–200.
- Mazzarella A, Diodato N. The alluvional events in the last two centuries in Sarno, southern Italy: their classification and power-law time occurrence. *Theor Appl Climatol* 2002;72(1–2):75–84.
- McKernan JF. Accountability as aporia, testimony, and gift. *Crit Perspect Account* 2012;23(3):258–78.
- McKernan JF, McPhail K. Accountability and counterability – Editorial. *Crit Perspect Account* 2012;23(3):177–82.

- 1023 Merleau-Ponty M. The phenomenology of perception. London: Routledge and Kegan Paul; 1962.
- 1024 Messner M. The limits of accountability. *Account Org Soc* 2009;34(8):918–38.
- 1025 Miller P. Accounting as social and institutional practice: an introduction. In: Hopwood AG, Miller P, editors. *Accounting as social and institutional practice*. Cambridge: Cambridge University Press; 1994.
- 1026 Miller P, O’Leary. Accounting and the construction of the governable person. *Account Org Soc* 1987;12(3):235–65.
- 1027 Miller P, Rose N. Governing economic life. *Econ Soc* 1990;19(1):1–31.
- 1029 Morgan G. Accounting as reality construction: towards a new epistemology for accounting practice. *Account Org Soc* 1988;13(5):477–85.
- 1030 Munro R. Alignment and identity work: the study of accounts and accountability. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 1–20.
- 1031 Q5 Mouritsen J. Marginalizing the customer: customer-orientation, quality and accountability. Working Paper, Copenhagen Business School; 1994.
- 1033 Moustakas C. *Heuristic research*. Newbury Park: Sage Publications; 1990.
- 1034 Olshfski D. Accountability and ethics in the Abu Ghraib scandal. In: A paper delivered at the Ethics and Integrity of Government Conference. 2005.
- 1035 Panozzo F. Accountability and identity: accounting and the democratic organization. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 182–95.
- 1036 Pollitt C. *The essential public manager*. Philadelphia: Open University Press, McGraw-Hill; 2003.
- 1038 Porter TM. Trust in numbers. The pursuit of objectivity in science and public life. Princeton: Princeton University Press; 1995.
- 1039 Potter BN. Accounting as a social and institutional practice: perspectives to enrich our understanding of accounting change. *Abacus* 2005;41(3):265–89.
- 1040 Riessman CK. *Narrative analysis*. Newbury Park: Sage; 1993.
- 1041 Roberts J. The possibilities of accountability. *Account Org Soc* 1991;16(4):355–68.
- 1042 Roberts J. From discipline to dialogue: individualizing and socializing forms of accountability. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 40–61.
- 1044 Roberts J. Trust and control in Anglo-American systems of corporate governance: the individualizing and socializing effects of processes of accountability. *Hum Relat* 2001;54(12):1547–72.
- 1046 Roberts J. No one is perfect: the limits of transparency and an ethic for ‘intelligent’ accountability. *Account Org Soc* 2009;34(8):957–70.
- 1047 Roberts J, Scapens R. Accounting systems and systems of accountability—understanding accounting practices in their organisational contexts. *Account Org Soc* 1985;10(4):443–56.
- 1049 Robson K. Accounting numbers as “inscription”: action at a distance and the development of accounting. *Account Org Soc* 1992;17(7):685–708.
- 1050 Rose N, Miller P. Political power beyond the state: problematics of government. *Br J Sociol* 1992;43(2):173–205.
- 1051 Romzek BS, Dubnick MJ. Accountability. In: Shafritz JM, editor. *International encyclopaedia of public policy and administration*. Boulder: Westview Press; 1998:1.
- 1052 Samiolo R. Commensuration and styles of reasoning: venice, cost–benefit, and the defence of place. *Account Org Soc* 2012;37(6):382–402.
- 1053 Sargiacomo M, Ianni L, Everett J. Accounting for suffering: calculative practices in the field of disaster relief. *Account Org Soc* 2014. [in press].
- 1054 Schwartz R, Sulitzeanu-Kenan R. Managerial values and accountability pressures: challenges of crisis and disaster. *J Public Admin Res Theor* 2004;14(1):79–102.
- 1055 Scolobig A, De Marchi B, Borga M. The missing link between flood risk awareness and preparedness: findings from case studies in an Alpine Region. *Nat Hazard* 2012;63(2):499–520.
- 1057 Shearer T. Ethics and accountability: from the for-itself to the for-the-other. *Account Org Soc* 2002;27(6):541–73.
- 1058 Sinclair A. The chameleon of accountability: forms and discourses. *Account Org Soc* 1995;20(2–3):219–37.
- 1059 Stella GA. Schei. Dal boom alla rivolta: il mitico nordest. Milano: Baldani & Castoldi; 2000.
- 1060 Taylor D, Tharapos M, Khan T, Sidaway S. Downward accountability for Victoria’s “Black Saturday” bushfires recovery: evidence from reports of government and NGOs. *Crit Perspect Account* 2014. [in press].
- 1062 Thieken AH, Kreibich H, Müller M, Merz B. Coping with floods: preparedness, response and recovery of flood-affected residents in Germany in 2002. *Hydrol Sci J* 2007;52(5):1016–37.
- 1064 Walker SP. Drought, resettlement and accounting. *Crit Perspect Account* 2014. [in press].
- 1065 Walker SP, Llewellyn S. Accounting at home: some interdisciplinary perspectives. *Account Audit Account J* 2000;13(4):425–49.
- 1066 Warren JK. Restoring responsibility and accountability in disaster relief. *William Mary Environ Law Policy Rev* 2007;31:893–925.
- 1067 Waugh WL Jr. Regionalizing emergency management: counties as state and local government public. *Admin Rev* 1994;54(3):253–8.
- 1068 Willmott H. Thinking accountability: accounting for the disciplined production of self. In: Munro R, Mouritsen J, editors. *Accountability: power, ethos and the technologies of managing*. Oxford: Thompson International Business Press; 1996. p. 23–39.
- 1069 Wilson DC, Branicki L, Sullivan-Taylor B, Wilson AD. Extreme events, organizations and the politics of strategic decision making. *Account Audit Account J* 2010;23(5):699–721.
- 1072 Wood D. The crisis of center-periphery integration in Italy and the rise of regional populism. *The Lombard League. Comp Polit* 1995;27(2):187–203.
- 1073 Yakel E. The social construction of accountability: radiologists and their record-keeping practices. *Inf Soc* 2001;17(4):233–45.