

Article

Public-private partnerships caught in a trust-trap and the potential role of information: the burden of divergent rationales

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Abstract. Trust is known to be beneficial for cooperation, though remains underdeveloped in public-private partnerships (PPPs), which are caught in a trust trap due to the cooperative regime's internal heterogeneity. Accordingly, PPP's inherent trust relationship is disentangled, and the burden of divergent actor rationales is introduced. We hypothesize that potential PPPs find themselves *ex ante* in a situation that requires certain repair mechanisms before the 'usual' venues of trust development can become effective. As such, exogenous information is theorized as quasi-substitute for relational experience that may support the development of a 'leap of faith'. Theoretical considerations are tested by a vignette experiment with representatives of both the public and the private sector. Within and between-group analyses find strong support for the burden of divergent rationales and stable levels of (role-based) trust. However, the effect of the information treatment on trust levels is limited.

Keywords: organizational trust; public-private partnerships; experiment; trust repair; trust development

JEL classification: C91; D91

1. Introduction

Although trust is seen as 'vital for the maintenance of cooperation in society' (Zucker, 1986, p. 56), it remains constantly underdeveloped in public-private partnerships (PPP) (Schomaker & Bauer, 2020). As such, a lack of trust challenges the operation of PPPs or even inhibits their creation. In general, it contributes to PPPs' underwhelming performance (Eurodad, 2018). The consequences are wide-reaching, since it *de facto* deprives public service provision of benefitting from bundled strengths of the public and the private partners and, thereby, severely undermines major public sector reforms of the past two decades that made PPPs a top priority.

Whereas the positive relationship between trust and cooperation is subject to a plethora of studies across the disciplines, it is low levels of trust and the subsequent problems that is flying under

the radar of PPP-related trust literature. This paper contributes, first, theoretically, by adding to a differentiated understanding of the enactment of trust and, second, by adding experimental evidence related to trust gaps.

This paper's major proposition put forward is similar to Nooteboom's (2002) notion of pathological mistrust that interaction necessary for developing trust does not take place because of trust levels being too low to reasonably engage in interaction. Disaggregating PPP's trust relationship, this paper argues that PPPs find themselves in a trust trap constituted by severe actor heterogeneity and divergent rationales. As such, it is suggested to approach the trust relationship in PPPs *ex ante* as one that shows similar characteristics to one that experienced trust violation, and to consider exogenous information as a potential quasi-substitute for (missing) relational experience necessary for trust creation. Empirical evidence found strongly supports PPPs' burden of divergent rationales and the corresponding perception of trust violation *ex ante*. Trust levels are found to be very stable, with exogenous information substituting for relational experience but with limited impact.

This paper proceeds as follows. First, PPPs' constituting elements and the trust-related interplay between them are analyzed, allowing for grasping (negative) dynamics, tensions, and potential breaking points within. On this basis, the nexus of heterogeneous actors, trust development and information-sharing within PPPs is discussed and hypotheses are derived. Second, an experimental design puts the impact of exogenous information on and the stability of trust levels under scrutiny by conducting a vignette experiment with representatives of both the public and the private sector. Primary data is then put under in-depth statistical scrutiny. Fourth, empirical findings are discussed and embedded in the body of extant literature.

2. Disentangling trust in PPP and the role of information

To cooperate always means to rely on and to be at the mercy of someone who is not oneself, hence, someone whose actions cannot be fully controlled. It therefore inevitably comes along with a certain degree of 'irreducible social vulnerability and uncertainty' (Möllering, 2006, p. 115). As such, cooperation necessarily requires actors – independent of the actor being an individual or an organisation (Kroeger, 2012) - to take a certain risk that the action of the other may be harmful (Dietz, 2011). To overcome the state of a paralyzed and reclusive society, it is trust understood as the 'psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another' (Rousseau et al., 1998, p. 393) that enables cooperation and secures its smooth proceeding (Hardin, 2002; Luhmann, 1988).¹

Generally, the benefit of trust for partnerships has been recognized widely and informed a plethora of empirical studies across the disciplines (Barber, 1983; Bidault & Castello, 2009; Fukuyama, 1995; Kappler & Schomaker, 2023; Lascaux, 2005; Lewis & Weigert, 1985; Luhmann, 1979; Möllering, 2006; OECD, 2011; Putnam, 1993, 2000; Sztompka, 1999; Zucker, 1986) and also in

¹ Indeed, levels of trust being too high are acknowledged as a potential 'dark side' of trust (Anderson & Jap, 2005; Möllering & Sydow, 2019; Nooteboom, 2002). Since the context of PPP struggles with very low levels of trust, the danger of high trust levels is not discussed in this paper.

the specific case of PPPs (Brogaard, 2019; Edelenbos & Klijn, 2007; Klijn et al., 2010; Schomaker & Bauer, 2020; Warsen et al., 2018). Put simply, large parts of the extant literature on the cooperation-trust nexus – independent of the (economic or political) yardstick used – consider trust as an explanatory variable and agree on a positive relationship between trust levels and both procedural and outcome indicators.

Approaching PPP and trust between the partners generically, Edelenbos and Klijn (2007) find trust being the single most important condition for a successful PPP. For example, Edelenbos and Klijn (2007), Klijn et al. (2010), and Schomaker and Bauer (2020) scrutinize transaction costs occurring in PPPs as a result of uncertainty and low levels of trust. They refer to trust as a substitute for control carving out the relationship between higher levels of trust, corresponding positive expectations about the trustor's action, a lower demand for additional safeguards when investing resources in a joint endeavor and consequently lower transaction costs. Amongst others, Warsen et al. (2018) include procedural indicators and take good cooperation (e.g. measures on smooth resolution of conflicts and the ability to overcome deadlocks) in a process into account as a part of PPP performance *sui generis*.

While there is consensus about the fruitful and dynamic relationship between trust and cooperation, the stagnant and even declining trajectory of PPPs is hardly targeted by extant literature. This is a serious void since low levels – in the extreme, the absence² – of trust can reasonably be seen as a severe obstacle for smooth cooperation. Some few theoretical and empirical exceptions that work on PPP-inherent trust problems, e.g. Schomaker and Bauer (2020), demonstrate that the instrument of PPP, despite extensive promotion in the past two decades, is largely neglected by public decision-makers with about two-thirds not considering PPP a valid alternative for public provision. Confirming trust in PPP as generally problematic, they compare PPP with public-only provision and find that PPPs are prone to lower trust levels and higher transaction costs that severely hamper cooperation between public and private actors. Along similar veins, even *ex post* 'failures' of PPPs, for example, in the form of cost- and time over-runs or the service's re-municipalization seem more often to be due to lack of trust than to factual performance problems (Hall, 2012). Large-scale empirical work, such as the special reports by the European Court of Auditors (2018) and Eurodad (2018) confirm PPP inherent problems of delays, cost increases, underuse and general ineffectiveness.

Disaggregating Trust in PPPs

In its basic terms, every trust relationship can be summarized as a trustor (X) who trusts a trustee (Y) relating to a specific issue (Z) (Hardin, 2002; Nooteboom, 2002; Six & Verhoest, 2016). Whereas PPPs elements are well known (a private partner, a public partner, a contract, and the objective of service provision), digging deeper into the interplay of such exposes several trust-related peculiarities.

Starting with X, both actors in charge (the private and the public partner), first, need to freely and actively opt for collaboration and, second, determine operational issues throughout the lifespan

² We consciously do not refer to concepts of distrust or mistrust.

of a PPP (Luhmann, 1988). Thus, X can be either the private or the public partner, each of which deciding and acting independently. Accordingly, in order to conduct PPPs (i.e. the actual enactment of trust), both partners need to accept vulnerability and have positive expectations of the other's intentions and, in general, the joint endeavor.

Substantial differences in the public and the private sector lead to different incentive systems, distinct decision-making, varying strategies and issues at stake; here subsumed as divergent rationales. Affirmatively, empirical work on stakeholder opposition within PPPs finds strong evidence for the gap between expectations on both the process and the outcome of the project between the distinct actors driving internal tensions and strong resistance (De Schepper et al., 2014; El-Gohary et al., 2006; Zhang, 2005). As such, the incentive structures and basis motives of the public and private sectors vary significantly and may even be contradictory. Basically, the former's rationale is to improve public well-being, while the latter's *raison d'être* is to maximize corporate profits. Whereas the former is largely accountable to the public, the latter will report to, e.g., an executive board and shareholders. Considering – in a slightly oversimplified manner – the divergent claims between the public that aims for a 'decent life' and the shareholder that aims for higher returns on investment, the perceptions of 'desirable behaviors or end states' (Edwards & Cable, 2009, p. 654) and of general appropriateness differ significantly between the actors. As such, a PPP understood as a very heterogeneous cooperative regime with an inherent dissent in sense-making, it is most likely prone to not share neither a joint vision (Lee et al., 2018), nor a common belief system, nor a reasonable degree of value congruence amongst each other (Arnold et al., 2012; Bouckaert, 2011; Parmentier & Vervaeke, 2011; Van Gestel & de Poorter, 2019) all of which instrumentally secure collaborators from one another's deviant and undesired behavior. On the contrary, using a sociological frame, approaching the two sectors as two independent socially constructed systems of norms, values, and beliefs, the definition of what is legitimate can vary significantly across the systems (Goodin et al., 2011; Kappler, 2022; Scott, 2010).

Translating to trust in PPPs, an actor within a joint endeavor who is deciding and acting differently than oneself would do, put the entire project at a rather unstable grounding. Own objectives are in continuous peril and need to be defended rather than jointly advanced. Accordingly, bridging to Rousseau's basic definition of trust, relying on someone else (or on a joint endeavor with the other) that has a divergent rationale, vulnerability is increased and positive expectations about both the other's intentions and the joint endeavor's appropriate conduct are at best difficult to develop. As such, in addition to expected generally low levels of trust, expectations and intentions of distinct collaborators most likely are not congruent and, therefore, trust levels can thoroughly vary within one trust relationship depending on the specific trustor (Hardin, 2002; Nooteboom, 2002).

H1: Trust levels into PPPs vary between the two trustors.

That especially holds up in the case of an asymmetric Z – as is the case in PPPs – meaning that the actual objective of the partnership belongs to the specific working field of only one of the actors. In fact, the major objective and actual reason for establishing PPPs across the world is to deliver improved services – vis-à-vis public-only service provision – and better value for money aiming at the collective wellbeing and the 'general interest' (PPP Knowledge Lab, 2021; Australian

Government, 2016). Along these lines, PPIAF (2012) justifies the existence of PPPs exclusively as a means to potentially better 'achieve the government's objectives' (p. 1) than public-only service provision. Considering PPPs basic alignment with the public sector, one may be tempted to see disadvantages for the private partner due to the alleged mismatch of the actual objective. However, the opposite may be the case. The decision of a private partner to join a PPP is based on relative clear cost-benefit calculations, informed by future gains, risks, and potential for economies of scale and scope (Boivaird, 2004). Oversimplified, if the expected return on investment of a PPP is lower than could be realized elsewhere, the private partner will most likely refrain from cooperating with a public partner.

Regarding the public partner, the decision on PPPs is more complex. Each PPP puts the public actor into a tension field characterized by the urge to 'harness the market' and the inherent loss of political control. Farazmand (1999, p. 152) puts it as 'with sweeping privatization of public enterprises and other major governmental functions, the capacity and ability of governments in public management are seriously diminished'. As such, to safeguard public accountability and democratic control and, thus, to cope with the actual public mandate³, an intrinsic preference is to keep specific tasks and responsibilities within the public sector rather than to privatize. Furthermore, a failure in public service provision, would cause very negative societal effects so that the public actor has 'no right to be wrong' (Rittel & Webber, 1973, p. 160). This raises the stakes and making it more difficult to rely on someone else.

Accordingly, considering a risk-related perspective, the concept of divergent rationales is further distinguished leading to different trust levels hypothesized as follows:

H2: The public partner trusts less in PPPs than the private partner.

Alongside the inner heterogeneity due to divergent rationales, PPP's organisation through a contractual structure makes the underlying contract a controversial trust-related issue. As such, contracts inform both the capability to compensate for divergent rationales and the perception of the Y of the basic trust relationship. On the one hand, contracts provide a frame and a certain order relating to obligations, responsibility-, task- and, in particular, risk-sharing arrangements over a given period of time (mostly between one and thirty years) (Schomaker & Bauer, 2020). Along the same lines, it can involve several safeguards for both the public and the private partner securing each other from the other's actual rationale. As such, indeed, the underlying contractual arrangements⁴ attempt to moderate discrepancies. On the other hand, typical PPP problems are relatively wicked inasmuch as they are 'complex, unpredictable, open-ended, or intractable' (Head & Alford, 2015) and – to meet public accountability - require a high degree of responsiveness to changing public opinion and, therefore, limit the scope of pre-set rules.

Accordingly, contracts do not rule out divergent rationales completely, keeping the PPP a tension field. However, the contractual architecture changes the appearance significantly and makes a PPP different to the sum of its two constituent partners. A PPP makes two independent entities part

³ The public mandate needs to be considered, since roughly half of citizens are concerned about private enterprises being involved in public services (James et al., 2016).

⁴ For an overview on varying PPP designs, e.g., Grimsey & Lewis (2005), Teicher et al. (2006); Bovaird (2004).

of a joint endeavor that forms an entity on its own (De Schepper et al., 2014). Accordingly, if one of the partners builds an expectation relating to the advancement of specific means and ends within a PPP, then assessing the entire PPP's 'intention' – considering the interplay of the two partners and the contractual arrangement - may be a more solid grounding than to exclusively assess the partner in an isolated manner. These considerations and the dynamics that urge out of contractual safeguards strongly inform the perception of the Y. Along these lines, this work partly dissents from the extant literature that perceives trust in PPPs as an inter-organisational matter and, accordingly, the Y as either the public or the private partner (Edelenbos & Klijn, 2007; Klijn et al., 2010; Warsen et al., 2018). Oversimplified, hitherto, the likelihood to engage in PPPs is explained by trust in the potential partner exclusively, excluding the specific contractual arrangements and interplay dynamics. However, this work proposes an analytical shift that, in fact, overlaps (potentially in large parts) with the literature on inter-organisational trust, though it departs from it by considering the complexity of PPPs as an, indeed, very heterogeneous and dynamic entity in itself. As such, including the self, and allowing for internal dynamics within the PPP, this work proposes to understand the trust relationship within PPPs as supra-organisational matter, as depicted in Figure 1.

The Y, accordingly, is understood as the supra-organisational composite of various organisations with an independent 'legislation' that is valid for all members and that requires the single partners to convey certain agency and sovereignty to the PPP. For example, in extreme terms, even if one partner does not trust the other one, there may be good reason to trust the entity of the PPP if the contractual design is advantageous.

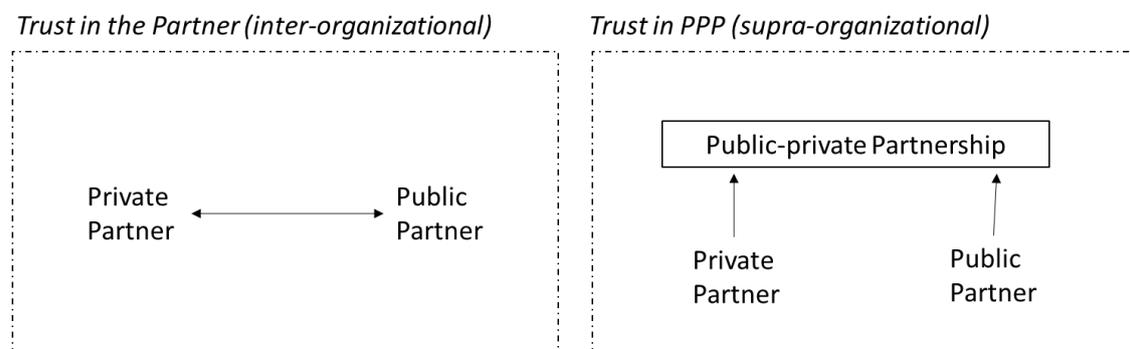


Figure 1. Approaches on Trust in PPPs (own illustration).

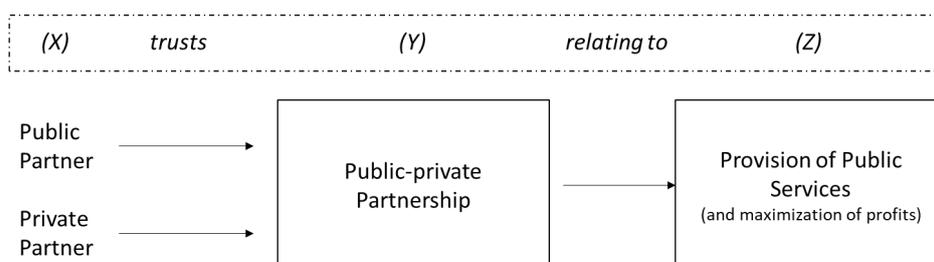


Figure 2. PPPs' basic trust relationship (own illustration).

Translating trust disaggregation discussed throughout this chapter into the basic trust relationship of PPPs, Figure 2 depicts the multifaceted nature of the trustor (X), the compound (supra-organisational) characteristic of the trustee (Y), and PPP's overarching and potentially conflicting objective(s) (Z) all of which find together in a context characterized by divergent rationales.

Trust Development in PPPs

As prior discussion elaborates, trust allows and supports cooperation. It is PPP's specific composition and the inherent diverging rationales, though, that depicts a rather infertile ground for trust to emerge and develop. Accordingly, the question of how trust develops generally and in a PPP in particular is of further interest.

Along these lines, this work borrows from trust-building and trust-repair literature that provides several revealing starting points. Recalling Rousseau et al. (1998), trust is developed when positive expectations are met by the counterpart's action. Accordingly, large parts of the corresponding literature (Dietz, 2011; Korsgaard, 2018; Lewicki & Bunker, 1996; Schoorman et al., 2007; Six & Skinner, 2010) approach trust development through a positive feedback loop, respectively through a virtuous cycle of increasing trust and cooperation resulting in a positive experience that again positively shapes future expectations.

Whereas one can reasonably assume that higher levels of trust are reached – if at all – slower in a heterogeneous partnership such as PPPs, it may be the starting point of this trust-creating process that explains the largest parts of the stagnant trust relationship at hand. In general, all cooperation necessarily starts at some point in time when trust is not yet developed. To begin cooperation despite absence of trust, amongst others, Simpson (2012, p. 551) argues that to a certain degree trust is taken-for-granted with a general propensity to trust since 'in living socially, people must rely on others to act cooperatively'. Along the same line, Stern (2016, p. 29) emphasizes the unconditional existence of trust as 'trust is not of our own making but is something given with the nature...' and, therewith, confirms the notion of trust as a moral duty in social life (Hollis, 1998). Accordingly, in order to overcome the initial obstacle of lacking experience and knowledge, Möllering (2006) states that in all cooperative action there is always a 'leap of faith' involved.

Relating to PPPs, however, one may argue that the public and the private partner do not start their relationship within PPPs at a usual starting ground in which a leap of faith helps to start the trust-developing process. This work suggests that, despite not having interacted before, built upon the well-known divergent rationales discussed above, the public and the private partner have a certain *ex ante* (negative) role-based trust level that puts trust levels well below ones in the case of not knowing each other (Kramer, 2010). In line with Kramer (1999), such a form of role-based trust is not built upon experience but is depersonalized and informed by the expectation that the potential partner plays a particular (here partly contradictory) role informed by, for example, sector-appropriate belief systems and notions of appropriateness.

As such, PPP's initial state of trust contains certain characteristics of a violated trust relationship, even though none of the partners has actively transgressed, respectively disappointed the other, nor has the PPP itself shown any problem. Accordingly, even without prior trust failure, divergent rationales lead to a trust gap resulting from the expected sector-appropriate 'action of

organisational agents that threaten the legitimacy of the PPP and that has the potential to harm the well-being of one or more of the organisation's stakeholders' (Gillespie & Dietz 2009, p. 128). This perceived violation *ex ante* lowers expectation to a level that makes partners refrain from cooperating with the unequal partner in PPPs. This widened gap between the partners can be understood as the burden of divergent rationales. It hampers – if not prohibits - trust development in PPP to start right at the outset, inhibiting the enactment of trust in terms of the initialization and implementation of PPPs. To the worse, as discussed above, the (public) partner who needs to initiate PPPs and, thus, who needs to overcome the initial obstacle is the one who is supposed to have even lower trust levels in PPP. Along these lines, the rule of PPP's public initiation⁵ reinforces trust-related problems in PPP. PPPs 'not even being considered as an alternative' (Schomaker & Bauer 2020, p. 4) by the vast majority of public officials, remarkably indicate that divergent rationales can deepen a trust gap until it turns into a *de facto* trust trap. In such a trap, similar to Nooteboom's notion of pathological mistrust (2002), necessary interaction for developing trust does not take place because trust levels are too low to engage in interaction, or as Nooteboom (2002, p. 207) puts it, the absence of trust 'will keep one from entering into relations, which robs one of the opportunity of favorable experience'.

Along these lines, to allow for initial trust development in PPPs, trust needs to be established by improving expectations up to a level that enables the partners to make themselves vulnerable and to grant the necessary 'leap of faith'. Organisational trust repair literature offers certain potential venues to improve expectations such as transparency measures and intensified regulation that, however, face severe limitations in the case at hand (Bachmann et al., 2015; Denize & Young, 2007). Recalling the virtuous cycles introduced above leads to (ever) increasing positive experiences culminating in an accumulation of knowledge into the other actor 'so that the other behavior is anticipatable' (Lewicki & Bunker 1996, p. 121). Conforming with, amongst others, Van de Walle (2017) and Rousseau et al. (1998, p. 399), the basic elements within each round of interaction building knowledge, hence, is the 'information available to the trustor from within the relationship'. However, since interaction (here cooperation in a joint endeavor) is not taking place in the discussed trust trap, it may be (positive) exogenously driven information – from outside of the actual relationship - about the other and the PPP that could increase initial trust levels. Accordingly, this work suggests to compensate for a lack of relational information by considering exogenous information as external quasi-experience, substituting for organic experience. Along these lines, focusing on external information as a driver of trust, this work is well in line with, for example, Kaplan and Haenlein (2009), who investigate information provision as a means of public marketing, and, amongst others, van der Meer (2017), Kumlin and Haugsgjerd (2017), Radin (2006), Van de Walle (2017), and Van Ryzin (2011) that work on political trust and the role of open data in general and, in particular, publicly available performance indicators. Along these lines, exogenous information comes with the advantage that it can provide quasi-experience about the entire PPP (and not merely about the potential partner). Basically, exogenous information is assumed to inform expectations relating to the PPP and, thus, also the willingness to accept vulnerability within such. Accordingly, this work hypothesizes that:

⁵ Privately initiated projects / unsolicited proposals are a very rare exception and describe the situation in which the private actor reaches out to the government with a project proposal (PPIAF, 2012).

H3: Exogenous information impacts trust levels.

Analogous to the quality of a personal experience, the quality of the substitute can be expected to have a similar effect. In very brief, that means that positive information substitutes for positive personal experience, both leading to improved expectations, i.e. an increased trust level; and vice versa. Accordingly, the information's quality (in terms of indicating either positive or negative content about PPPs) is hypothesized to impact trust as follows:

H4: Positive / negative information increases / decreases trust levels.

Taking H4 one step further, allowing effect sizes to differ between negative and positive information, one can – making information a sensitive issue - assume negative information to cause a larger delta in trust levels (negative) than positive information (here a positive delta) does. As such, Thorbecke (as cited in Six, 2005, p. 5) gets to the heart of potential change in trust levels by speaking metaphorically stating that 'trust comes on foot, but leaves on horseback', therewith emphasizing the gradual and general time-consuming development of trust in small steps and the consequences of violation as occurring in a rather 'catastrophic manner'. According to, amongst others (Ross & LaCroix, 1996), decisive for such different effects may be the more vivid perception of violation vis-à-vis the mostly taken-for-granted experience of good cooperation. Following, this work hypothesizes that:

H5: Negative information weighs more heavily than positive one does.

One step further, better understanding effect sizes, beyond the specific kind of intervention, it is the trust levels themselves that need to be considered well. As such, trust levels can be supposed to vary in stability over time and, thus, over interventions. Put it simply, information will be of larger impact when existing trust levels are rather loose; respectively, the impact will be smaller when trust levels are firm. Following this line of thought, trust levels' inherent stability and the effect size of information are assumed to correlate negatively. As such, it is of major importance to understand, generally, how and, particularly, on which pillars existing trust in PPPs is built upon, since specific paths of trust development (and violation) may lead to either firm or loose trust levels. Borrowing from extant literature, one may subsume the corresponding discussion as the question of if (perceived) trust violation took place either 'strategically' motivated by integrity issues or 'accidentally' caused by a lack of competence or even mere misfortune. In very brief, on the one hand, one may be positive about trust repair (i.e. expecting low stability measures), since – in this case - perceived trust violation is most likely attributed to the divergent rationales in the sectors of origin and not to the specific partner's deliberation and strategic deception within PPPs. Accordingly, as Grover et al. (2014) indicate, such unintentional violations can be recovered more easily than intentional ones. On the other hand, as discussed above, it may be exactly these divergent rationales indicating different perceptions of appropriateness and sound principles regarding legitimate means and ends, leading perceived violation to be interpreted as 'integrity-based'. In comparison to 'competence-based' violations that can be a sheer mistake, integrity-based ones are more difficult to

repair due to general doubts about the moral values of the other, which will most likely keep informing future behavior within PPPs (Grover et al., 2014). Along the same lines, differentiating causes for violation based on their expected permanence, in line with Tomlinson and Mayer (2009), integrity-based violation, when compared with competence-based one, is supposed to remain constant and, thus, exposes a constant threat. Hence, building upon Kramer (1999), such integrity-based trust levels that anticipate the expected (undesired) role of the other in a PPP in the context of divergent rationales, one may assume the (low) expectation into PPP of both the public and private partners to be relatively firm, making them difficult to change. As such, it is hypothesized that:

H6: Initial (pre-test) trust level matters.

PPP's disaggregated trust relationship caught in a trust trap and the potential role of exogenous information are put under empirical scrutiny in the subsequent chapter. The theoretically derived hypotheses are put to empirical contestation using an experimental design and quantitative analyses.

3. Results

In order to test the hypotheses raised, an experimental vignette setting is applied that is based on an (external) information-providing intervention. This methodology comes with several crucial advantages, in particular it allows to identify causal mechanisms based on systematic and balanced treatment variation and seems to be an appropriate and innovative research method for the purpose at hand (Anderson & Edwards, 2014; Bouwman & Grimmelikhuijsen, 2016; James et al., 2016; Margetts, 2011; Walker et al., 2017).

Experimental Setting

This study applies a campus-based classroom experiment at two German universities in which the classroom serves as a controlled 'laboratory' and allows for high levels of control. The study group is composed of management students from a private business school as well as students of 'public administration' at a school of administrative sciences; the overall N equals 80 subjects.⁶ As such, the group composition involves (future) decision-makers from the public and the private sector and, therefore, represents the target population fairly well. All students stem from higher semesters and come up with a fair amount of study and working experience and can, therefore, be reasonably assumed to be specifically socialized in their corresponding sectors. Since this experiment aims at decision-makers in both the private and the public sectors rather than at citizens, this experimental setting does not face the challenges of low external validity when drawing inferences from students

⁶ The power analysis used to determine the sample size or number of observations required to detect an effect of a reasonable size, provided us with a value 0,78 and thus is close enough to the 0,8 value that is usually taken as a benchmark for such experiments (Suresh & Chandrashekhara, 2012).

to citizens. On the contrary, the homogeneous groups of public administration and business students proxy well the relatively narrow elite group of public and private decision-makers and allow sound comparison between experimental groups (Morton & Williams, 2010).

Generally, the applied experiment combines a within- and a between-group logic and, therefore, allows to capture changes in trust levels based on, e.g. sectoral belonging and over 'time' (before and after the intervention). Along these lines, to capture the enactment of trust i) the respective trust levels are queried before and after the intervention and ii) the independent variable (information) is manipulated to scrutinize the potential effect on the dependent variable, (trust levels). The type of frame this work applies is an 'equivalency' or 'valence' frame, as it casts true information about PPPs, just in either a positive or negative light (Druckman, 2011). These logically equivalent statements concerning PPPs are expected to make the participants to choose different options (Rabin, 1998, p. 36). The texts (see Appendix) for the intervention were written by the study authors specifically for that purpose and follow the logic of PPP's supra-organisational character. The first text for group A ('neutral intervention') serves as control and merely explains why researchers use questionnaires and surveys and is used merely as a 'distractor' to bridge the time gap for the control group, thereby avoiding a time bias, ensuring that the time lag exposure of all groups is the same, approximately three minutes. The second text (Group B, 'negative intervention') provides information emphasizing potential risks and challenges related to the new cooperation regimes between the public and private sector. The third text (Group C, 'positive intervention') provides information about the positive effects and potential benefits related to the new cooperation arrangements.

In order to improve validity of the experimental design and to secure a proper understanding of manipulations, the experiment was cognitively pre-tested with representatives of the targeted groups. Accordingly, due to this relatively high degree of internal consistency, one may not expect significant disruptive factors. Nonetheless, to correct for potential structural differences in individual trustor-related drivers of trust (Arnold et al., 2012; Parmentier & Vervaeke, 2011) such as age and gender, the experimental setting and the subsequent quantitative analyses control thoroughly for such.

The experiment was conducted by a professor of the respective faculty that is known to the students, but not the one that was currently teaching the class. This approach was chosen to control for the potential bias that may arise if an actively teaching professor conducts the experiment, but to ensure that the source of information overall is trusted by the participants. After providing basic information about the fact that a scientific experiment will be conducted, and the related question of whether the individual was willing to participate⁷, as well as a short neutral introduction of the fact that in many countries the public sector includes private agents in the service delivery, questionnaires were randomly assigned and double-blind distributed amongst the study group participants.

⁷ Being fully aware of the experiment's purpose, the handling of data, and its voluntary nature, all participants affirmed the desire to participate in advance of the experiment and, therewith, provided informed consent.

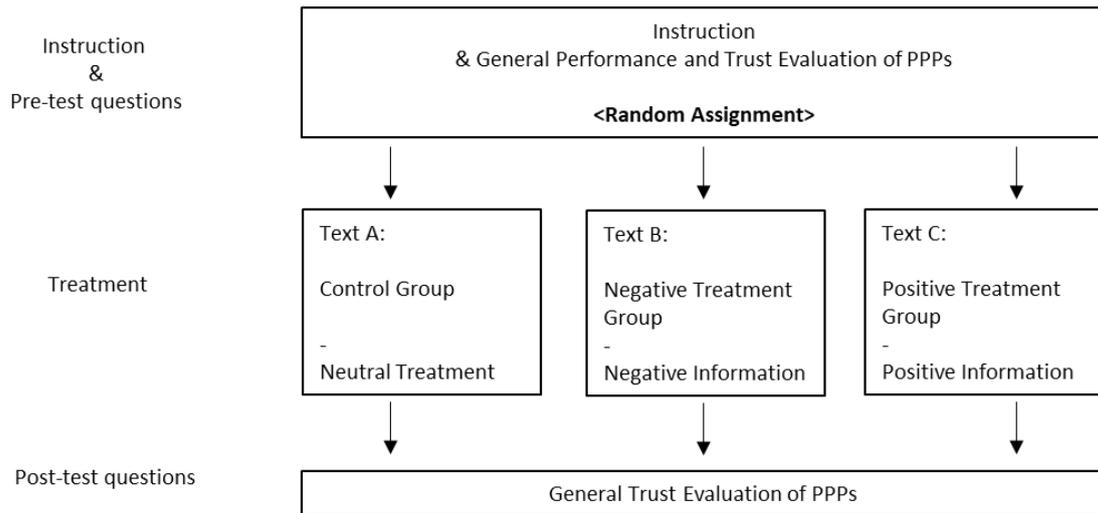


Figure 3. Experimental design (own illustration).

As indicated in Figure 3, the questionnaires contained a set of pre-test questions that were the same in all groups, one randomly distributed vignette Text A, B or C, and a set of identical post-test questions for all groups. All questions (of which not all are used for this paper) and texts are fully shown in the Appendix. Relating to the measurement of trust levels, well in line with, e.g., Dietz (2011), and Dietz and Den Hartog (2006), this work emphasizes the processual character of trust relationships. Accordingly, it considers ‘trust stages’ that begin with the assessment of the other’s trustworthiness, then leads to the decision to either trust or not, and results in the trust-informed action, i.e. the enactment of trust - here to opt for a PPP. The trust items developed and used in this experiment assess trust in terms of the ‘transition category’, that is the decision to either use PPPs or not, i.e. to accept or refuse vulnerability in the sense of enactment of trust. By querying trust levels into PPPs in general – and not exclusively into the potential partner - trust levels are queried according to the supra-organisational nature of PPPs.⁸

Quantitative Analyses

Relating to differences between groups, both H1 and H2 as discussed above target the hypothesized basic trust problem in PPPs that is the internal actor heterogeneity. It is hypothesized that divergent rationales translate into i) different trust levels based on sectoral belonging and ii) relatively lower levels of trust of the public partner, both culminating in a burden of divergent rationales. To empirically approach both differences in trust levels in general and, in particular, the specific kind of differences based on belonging to either the private or the public sector tests for group differences are run. Since it is the empirical baseline (pre-experimental) condition of PPP’s trust relationship and the inherent divergent rationales that is of prime importance, pre-test trust levels are scrutinized using the nonparametric Mann-Whitney U Test to test for differences of the ordinal dependent variable pre-test trust level between the private and the public sector. As assessed by visual inspection of population pyramids (indicating frequency of different trust levels isolated for both

⁸ The appendix provides the detailed questions and the texts used for framing.

public and private sector representatives), distributions of trust levels for public and private sector respondents were similar. Accordingly, median trust levels could be applied for further scrutiny. In general, evidence was found supporting H1 and H2, since the median trust level score was statistically significantly lower (i.e. also different) for public sector respondents (3.5) than for private sector respondents (4.0), $U=604$, $z=-2.032$, $p=.042$.⁹ In addition, cautiously confirming sectoral belonging as partly explaining trust in PPPs, scrutinizing group difference of post-test trust levels based on sectoral belonging, excluding different interventions for now, confirms both trust differences within PPPs and relatively lower values for the public partner (with a median of 3.0 for public sector respondents and 3.5 for private ones, though becoming insignificant, $U=609$, $z=-1.887$, $p=.059$).¹⁰ Summarized in Figure 4, evidence found (stronger in the case of pre-test trust levels) supports the notion of PPP's internal heterogeneity and the low(er) public trust levels. Along these lines, both H1 and H2 can be accepted.

To overcome the empirically shown burden of divergent rationales, the role of information as quasi-experience has been tested accordingly. In a first approach, a Wilcoxon signed-rank test was applied to test for differences in trust levels *before* and *after* the intervention. As such, it tested the impact of the intervention in general. 80 sectoral representatives were recruited to understand potential changes in trust levels based on information treatment as measured with a 5-point Likert scale. As test statistics indicate, information treatment elicited a statistically significant median increase in post-test trust levels compared to ex-ante trust levels, $z=-2.67$, $p=.008$. Accordingly, not distinguishing the type of intervention so far, this analysis suggests that interventions matter to a certain degree, and, thus, exogenous information impacting trust levels leading to a preliminary acceptance of H3. However, since pre- and post-test trust items are, indeed, querying the same concept, but with non-identical wording, one needs to cautiously interpret findings and contest such by further analyses, as is done subsequently.

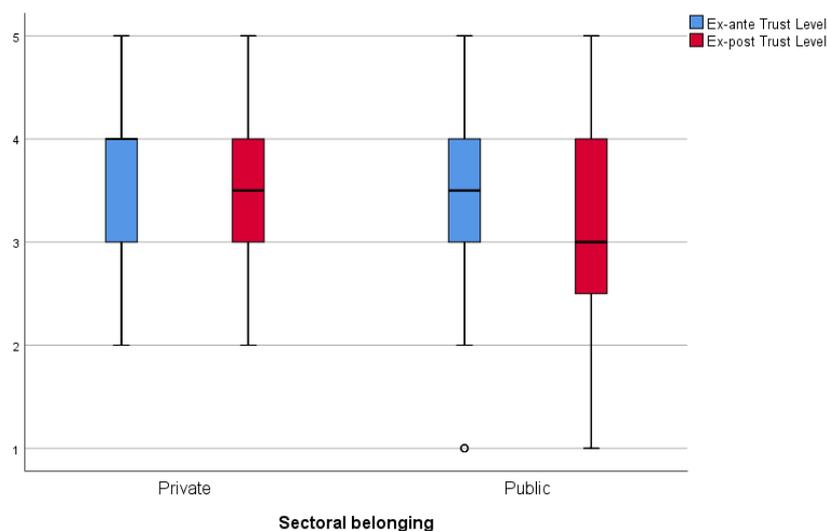


Figure 4. Boxplots trust levels based on sectoral belongings.

⁹ Same pattern can be observed when comparing mean ranks instead of median scores with public sector representatives (mean rank =35.28) scoring significantly lower than public sector representatives (mean rank=44.77).

¹⁰ Again, comparison of mean ranks results in similar patterns with public sector representatives (mean rank=35.42) scoring significantly lower than public sector representatives (mean rank=44.66).

Table 1. Hierarchical Multiple Ordinal Logistical Regressions (GLM).

Variables	(i) Exp(B)	(ii) Exp(B)	(iii) Exp(B)
Pre-test trust levels ¹¹	13.091***	14.016***	13.319***
Neg. Intervention (reference is neutral intervention)	-	0.559	0.582
Pos. Intervention (reference is neutral intervention)	-	1.153	1.185
Private sector belonging (reference is public sector)	-	-	1.527
Age	1.025	1.015	1.037
Gender (reference is female)	1.582	1.542	1.516

Note. N = 80; Dependent Variable: Post-test trust levels. Significance level: *** 1%, ** 5%, * 10%

To further elaborate on, amongst others, stability effects, intervention effects on (post-test) trust levels and expand analyses by the inclusion of other (control) variables and interaction effects, the following part of the statistical analyses conducts various multivariate ordinal logistic regression in a hierarchical fashion, as summarized in Table 1. In line with H6, to test for stability of trust, model (i) was run to determine the effect of the pre-test trust levels that are assumed to be rather role-based, on the post-trust levels. An increase in pre-test trust levels was associated with an increase in the odds of showing high post-test trust levels, with an odds ratio of 13.319 (95% CI, 5.710 to 30.013), $\chi^2(1) = 36.916$, $p < .005$. As such, trust levels in PPPs can be assumed to be a very stable trait providing strong empirical support for H6 that can be well accepted. Noteworthy, both control variables (age and gender) do not show significant differences in odds ratios in this estimation, and, anticipating, continue to be insignificant across all models tested.¹²

Contesting findings relating to H3 made above and further expanding analyses to consider H4 (including different interventions), Model (ii) allows to test for specific intervention effects on post-test trust levels. Negative and positive interventions are introduced and compared with the control and reference group 'neutral intervention'. As such, beyond the findings made through the Wilcoxon signed-rank test above, this approach allows to fully benefit from the experimental setting and enables us to grasp causality between the specific kind of intervention and the corresponding change in the dependent variable. The odds of someone who received a positive intervention having

¹¹ Generally, the various robustness checks made throughout quantitative analyses are not included for the sake of better readability. Noteworthy, however, all regressions have been likewise conducted considering the ordinal nature of the ex-ante trust levels, fully supporting findings made above.

¹² While, particularly, the non-effect of gender may be slightly controversial with extant literature on, for example, citizen trust, it seems reasonable in this case surveying 'elite' groups indicating a high degree of homogeneity within groups, therewith, strengthening the theorized firm joint belief system within sectors.

higher trust levels was 1.153 (95% CI, 0.306 to 4.345) times that for someone who received a neutral intervention, $\chi^2(1) = 0.044$, $p = .833$, indicating both a very small and insignificant impact of positive information treatment on trust levels. Showing a slightly stronger impact, though remaining insignificant, the odds of someone who received a negative intervention having higher trust levels was 0.559 (95% CI, 0.158 to 1.977) times that for someone who received a neutral intervention $\chi^2(1) = 0.814$, $p = .367$. As such, both interventions, when compared with the control group, show small impacts with the negative intervention slightly outweighing the positive one. Accordingly, the relationship between the specific (positive / negative) intervention and the direction of change in trust levels as hypothesized in H4 finds cautious support from within the sample but cannot be accepted due to insignificance. The same holds true for H5, inasmuch as negative information has a slightly stronger negative impact than positive information, which has a positive impact within the sample but cannot be accepted in the context of this specific study due to insignificance. Translated to practical meaning, different information treatments have – if at all – a minor and, on average, slightly stronger impact for negative information. Ex-ante trust levels keep on weighing in strongly inasmuch as an increase in ex-ante trust levels was associated with an increase in the odds of showing high ex-post trust levels, with an odds ratio of 14.016 (95% CI, 5.959 to 32.963), $\chi^2(1) = 36.612$, $p < .005$. Accordingly, considering both pre-test trust levels and the different interventions, information treatments hardly contribute to explaining post-test trust levels, which are explained in large parts by the corresponding (assumed role-based) pre-test trust levels.

Model (iii) was run to determine and double-check the impact of sectoral belonging on the post-test trust levels. As Table 1 indicates, considering multiple independent variables and largely affirming findings from above, the effect of sectoral belonging to trust levels remains stable relating to the positive sign when referring to the private sector, though it becomes insignificant.

4. Discussion

H1 and H2 find strong empirical support that suggests generally very low trust levels and that the public partner has substantively lower trust in PPPs when compared with the private one. This makes the case for divergent rationales both identifiable and decisive. Distinct incentive and risk structures and different perceptions of vulnerability and uncertainty seem to play an important role when assessing trust in PPPs. That feeds back to theory building and practical handling of trust in PPPs through various venues. It sheds light on the difficulty of trust development in heterogeneous cooperative regimes and, indeed, makes PPPs a least likely case for trust to emerge and to develop. Next to the recognition of trust being problematic in the case of PPPs (Hall, 2012; Eurodad, 2018; Schomaker & Bauer, 2020), this paper contributes an explanation for low trust levels that result in, generally, stagnation and (under-) performance of PPPs. It makes PPPs an organization in which own interests need to be defended against competing ones rather than to be jointly advanced.

Relating to the low(er) levels of trust of, particularly, the public partner with a public mandate and ‘no right to be wrong’ (Rittel & Webber, 1973, 160), it seems at best difficult to rely on someone within a joint endeavor who have contradictory motives and corporate objectives. In conjunction with PPP’s rule of public initiation, trust problems impede the creation of PPPs and most

likely further strengthen the concept of the corresponding trust trap.

The potential role of information as quasi-substitute for relational experience in trust development is rather sobering and H3, H4, and H5 cannot be accepted. Indeed, interventions have the expected impact that validates the hypothesized cause-effect relationship though exclusively within the sample. It may, however, suggest that such information treatment will not suffice to make PPPs a considerable alternative for both public and private actors. Limited effects of the information treatment may be due to the perceived trust violation ex-ante being integrity-based rather than competence-based. As found by Grover et al. (2014), Kim et al. (2013), and Dirks et al. (2011), such violation is likely to be perceived as strategic and will most likely be repeated. Hence, corresponding ongoing negative expectations may translate into long-term attitudes and, consequently, stable trust levels despite of positive information. This line of thought is strongly confirmed by empirical evidence found within the context of H6 that hypothesizes trust in PPPs being firm. By far the strongest explanatory variables to explain post-test trust levels was the trust level that was queried before the treatment.

Limited effects of the information treatment, however, may also be explained by the specifics of the treatment. First, the information treatment was relatively technical and descriptive and may fall short of resembling personal experience that is made through interaction (***) . Following these lines, more personal, emotional and salient information could have a stronger impact. Second, information was provided once. Particularly, in the context of relatively stable trust levels, one could also raise doubts on the impact of a one-off interaction-based experience. Following the virtuous cycle in which interaction and trust develop mutually over time and various frequent interactions, one may also think of information as if delivered more frequently to have stronger impact through the functioning of a similar cycle (Korsgaard, 2018; Six & Skinner, 2010). Along these lines, rather than one-off information as applied in this paper, one may provide information more frequently or on demand similar to accountability and transparency measures which are found to have stronger effects on trust levels (Kumlin & Haugsgjerd, 2017; Van de Walle, 2017). Third, against the backdrop of divergent rationales, it may also be more effective to provide more tailor-made information that better suits the idiosyncratic incentive- and belief-system of the different partners. In particular, it could help if information addresses specific reservations and ways to circumvent partner-related risks rather than more generic information as provided in the empirical study at hand.

With a closer look at H5, the effect of negative information being stronger than the one of positive information is revealing and confirms literature by large. While it proposes a very slow and incremental generation of trust, trust destruction seems to be a rather disruptive endeavor (Six, 2005). Following basic trust psychology, it may be, in particular, the case of PPPs' divergent rationales in which negative information can have a relatively large effect since it is 'confirmatory' inasmuch as it meets yet existing negative reservations that again can serve as fertile ground for further decreasing trust.

5. Conclusions

This paper sheds light on (low) trust as an explanatory variable for PPP-related problems and advances the field of trust in heterogeneous partnerships by introducing the supra-organisational structure of PPP, the burden of divergent rationales, and exogenous information as potential (quasi-) substitute for relational experience.

This paper explained PPPs as being caught in a trust trap in which the necessary interaction for trust development does not take place because trust levels are too low to interact in the first place. The experimental setting applied served well to empirically scrutinize different trust levels within PPPs based on the different rationales in either the public or the private sector. Making the rule of public initiation a particular problem, public sector representatives showed significantly lower trust levels in PPPs than their private counterparts do. Accordingly, the proposed existence of divergent rationales within PPPs, indeed, develops into a *de facto* burden when approaching trust development. As a potential means to develop a sufficient trust level that allows for interaction to occur, exogenous information was hypothesized to act as a quasi-substitute for relational experience. Empirical evidence strongly supported the concept of divergent rationales but found a relatively low impact of information treatments. Explaining partially the lack of effect of information on trust in PPPs, trust levels were very stable and, thus, very difficult to change. That again strongly backs both the concept of divergent rationales and the perceived-trust violation being integrity-based informed by divergent rationales.

As such, this paper contributes to better understanding of the nexus between PPPs and (low) trust, providing a rather sobering image for trust prospects though. However, it is this point where this paper's limitations and suggestions for future research concur. Information can vary in presentation, frequency of provision, and content. Accordingly, findings made are valid exclusively for the kind of information (written, moderate, general role-based information, one-time) given in this experiment and – if at all – give an idea on information effects in general. Given the stability of trust levels, it may be important for information to better mimic personal relational experience in order to attain a larger effect, similar to the one of relational experience. Tailor-made information for each of the trustors, considering divergent rationales, potentially making it more personal, more emotional, and more salient may increase the effect of information on trust levels. Accordingly, findings made here would highly benefit from further contestation by the inclusion of different forms of information.

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Appendix

Pre-test questions

Statistical Information:

Age _____

Gender m f

Course of Study: General Management other _____

Public Administration? yes no

State _____

Pre-test questions regarding the provision of public services

We are interested in your opinion regarding the provision of public services and kindly ask you to answer the following questions. Please mark the answer that most closely matches your opinion.

The scientific evaluation of the questionnaires will be anonymous; the results will only be used for research regarding Public Administration and will not be used for other purposes.

1) The public sector (municipal, regional, or state level) in Germany and the European Union is efficient and effective in the provision of infrastructure such as water/sewerage, construction of schools, or transportation infrastructure.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

2) You may be familiar with the concept of 'Public-Private Partnerships (PPP)' – contractual agreements between the public sector and private enterprises to provide infrastructure and services in areas such as water or transportation. The aim of such cooperation is risk- and work-sharing. The private partner is responsible for providing the service efficiently and provides capital, while the public partner takes over responsibility for meeting overall welfare goals. The inclusion of private enterprises in these arrangements in Germany or the EU is

Very desirable

Desirable

Neutral

Not desirable

Completely undesirable

Treatment groups

Group A

Economists and researchers in public administration deal with questions that are of general political interest as well as relevant to the current practice of administration. The information gathered from this research may contribute to more efficient and effective service provision by the administration in the long run. This applies to Germany and the European Union level. In this context surveys such as this one help, among other things, to collect information about the attitude of individuals towards politics and administrative actions. This information, qualitative or quantitative, not only brings new insights to research, but also forms the basis for political consulting. Thank you for your participation!

Group B

Although the number of PPPs is increasing, their theoretical benefit is quite controversial, even the public authorities are not completely convinced about the usefulness of PPPs as an alternative procurement method. Not all PPP-concepts are fully developed, resulting in time overruns, subsequent cost increases, or even the cancellation of PPPs. Thus, many decision makers, committees, and civil servants tend to execute their planning and procurement under their own direction due to inexperienced administrative procedures. In most areas there is an uncertainty about lawful and administrative procedures. A unified nationwide PPP law that sets rules for assuming risk and specifies the problem handling PPPs is still missing so far.

Group C

Many advantages are expected in connection to PPPs: First, an anticipatory effect as PPP investments can be helpful to the indebted public sector. This method is easier compared to the normal, often tedious budget planning for its own raising of credit. In addition, PPP-projects result in a time gain - with their faster, on schedule, and in budget completion - as well as an increase in efficiency through the pure economic management of the private sector in the maintenance and operation of systems. PPPs are true to the principle that the government and the private sector should concentrate on their strengths and core competences, resulting in optimization of the service for the users and increases in the overall efficiency of the performance. The private companies have long-term experience in the optimal design of specific types of projects, in particular in structural engineering, and therefore they can better estimate the existing project and operational risk. Thus, through PPPs a more economically efficient provision of services can be achieved for the citizens' benefit.

Post-test questions

In the following you will find further questions on service provision. We kindly ask you to answer them, marking the answer that best reflects your opinion. For question 3, more than one answer can be marked.

1) With regard to the importance of services for the society and regarding to the potential benefits and risks related to PPPs, private enterprises should be included more often/whenever possible

Yes No

2) Please mark your level of agreement 'PPPs should be used'

Strongly agree

Agree

Neutral

Disagree

Strongly disagree
