Payment for Results: Funding Non-Profit Operations

Introduction

Traditionally, governments and large donors provide upfront funding to non-profit organizations (NPOs) to deliver public services and implement development projects. Often, these funding decisions are made in the face of information asymmetry about the NPO’s efficiency and uncertainty about the quantum of benefit that will be delivered [Hobbes, 2014]. With tightening budgets and limited funds, many governments and philanthropic agencies (‘social planners’) have started focusing on alternate approaches that will allow them to channel funds to more efficient NPOs [Comptroller and Auditor General, 2015]. One such approach that is being used increasingly is to tie funds to outcomes achieved, termed as ‘payment-by-results’ or ‘payment for results’ (PfR) funding. Under PfR, rather than provide funds upfront, the funding agency pays the NPO after project completion, based on the actual results achieved [Bond for International Development, 2014, Sheil and Breidenbach-Roe, 2014, Cheng and Kromminga, 2016].

The PfR approach is similar to performance-based contracting used in for-profit supply chains. However, NPOs face severe financial constraints and do not have easy access to capital. Thus, PfR imposes considerable burden on the implementing NPOs when no upfront funding is provided. Further, the actual amount of funds received is uncertain at the time the NPO decides to undertake a project and uncertainty in fund flows can severely hamper a NPO’s ability to deliver results in future periods [Natarajan and Swaminathan, 2014]. Evidence from practice suggests that new NPOs with innovative approaches to address complex development issues are often the most disadvantaged under a PfR approach. This is because such NPOs tend to be small and lack resources to implement projects without funds being available upfront [Sheil and Breidenbach-Roe, 2014]. Critics of PfR argue that NPOs that have the financial resources to start projects, often adopt tried and tested methods to minimize the risk of negative outcomes, and as a result the most vulnerable sections of the society may be under-served [Bond for International Development, 2014].

Different approaches have been proposed to alleviate the financial constraint faced by NPOs under the PfR approach. Amongst these, Social Impact Bonds (SIBs) have become popular with governments and some large donors [Sheil and Breidenbach-Roe, 2014, Bond for International Development, 2014, Cheng and Kromminga, 2016]. Using a SIB, the social planner invites social investors to provide the upfront funds needed by the NPO implementing the project. The investors in turn are paid by the social planner upon completion of the project, with the payout tied to actual results delivered. SIBs transfer the financial risk to social investors while providing financially constrained NPOs with the upfront capital required to implement development projects. While SIBs combined with PfR help relax the funding constraint for NPOs, they may not ensure that all desirable projects are funded. This is because investors may shy away from funding projects with high degree of uncertainty and/or involve NPOs that are relatively new [Sheil and Breidenbach-
Roe, 2014]. Some voluntary organizations argue that hybrid mechanisms where only a portion of the funding is tied to results, with the remaining provided upfront (or disbursed at well-defined time intervals), should be used to fund NPOs. Such an approach, they argue, will ensure that risky projects (and yet to be proven implementation techniques) will have a fair chance of being taken up [Bond for International Development, 2014].

**Research Questions, Model, and Results**

Given the different funding approaches used in practice and tradeoffs involved, we are interested in answering the following questions as part of this research: (i) How should the donor design a PfR contract? (ii) Under what conditions does PfR combined with SIB provide higher expected utility compared to traditional funding, and vice versa? and (iii) What are the benefits of using a hybrid mechanism where part of the funding is provided up-front while the remaining funds are contingent on results being achieved?

To answer the above research questions, we model the interaction between the three players in the NPO chain – the social planner (ultimate donor/payor), the intermediary (investors in the SIB), and the NPO – as a sequential move game, with the social planner as the first mover and the intermediary and the NPO following in sequence. The social planner specifies the payout to the intermediary as a function of the actual benefits provided and a desired target, subject to a budget constraint. The intermediary responds by choosing the funds to provide to the NPO implementing the project, and the NPO in turn chooses the effort to exert on the project as a function of the funds provided. The social planner and NPO's utility are increasing in the benefit provided net of the actual payout and cost of effort, respectively. To model social investors with different motivations, we model the intermediary’s utility as a function of both the benefit provided and the financial returns realized from investing in the SIB. To capture information asymmetry, we assume the social planner does not know the NPO’s efficiency. However, the intermediary knows the NPO’s efficiency when deciding on the funds to provide to the NPO.

We find that the expected benefit delivered as a fraction of the target set by the social planner is non-increasing in the target. We show that there exists a threshold on the target such that for all values of the target below this threshold, the intermediary provides “full-funding”; that is, the funds provided by the intermediary to the NPO are sufficient to ensure the target is always achieved. For a sufficiently high target, the intermediary under-provisions funds, and the actual benefit provided is always lower than the target. We find that the threshold target below which the intermediary provides “full-funding” is decreasing in the project’s downside risk; that is, as the severity of a negative shock on the project outcome increases, the region over which the intermediary provides “full-funding” shrinks.

To ensure the intermediary’s participation, we find that the social planner reduces the target as project risk increases, and chooses a target such that the intermediary provides “full-funding” to the
NPO for projects with risk above a threshold. Interestingly, we find that for risky projects the social planner’s expected utility under the traditional approach, where the NPO’s efficiency is known only probabilistically, can be higher than the expected utility when using the PfR approach where the intermediary knows the NPO’s efficiency. In other words, even if SIBs shift the risk from financially vulnerable NPOs to social investors, satisfying the intermediary’s participation constraint does not allow the social planner to realize the benefit of overcoming information asymmetry when projects have downside risk.

Our results show the limitations of using PfR approach when tackling inherently uncertain, but nevertheless important, development projects. These results indicate that social planners should take a nuanced approach when funding development projects and there is no ‘one size fits all’ funding approach that works for all projects. In addition to characterizing conditions under which PfR performs better compared to traditional funding approach and vice versa, we also consider the design of hybrid mechanisms where part of the funding is provided upfront and the remainder tied to results achieved. Such hybrid mechanisms provide NPOs and intermediaries an opportunity to learn about the underlying uncertainty and/or improve their efficiency, allowing the social planner to overcome some of the shortfalls of the pure PfR and traditional funding mechanisms.

References


