Theoretical Foundations of
Partnerships for Economic Development

By

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I. Introduction[1]

In recent years, the international development community has come to recognize that "despite the potential benefits of globalization and technological change, world poverty has increased and growth prospects have dimmed for developing countries during the 1980's and 90's." (Maxwell and Conway, 2000, p. vii) This realization has lead to a change in focus from donations from the rich to the poor – often with the imposition of strict conditions – to a new emphasis on partnership.[2] For example, at the World Bank, the intention is

> to treat partnerships as an organic process, in which trust is built over time, in which steps are taken to weave a "fabric of sustainability"; and to consider how mutual accountability may be built, perhaps in the form of a contractual arrangement. (Maxwell and Conway, 2000, p. viii)

The purpose of this essay is to help clarify the theoretical foundations of partnerships in a development context. The essay proceeds by explicitly taking into account that a donor and recipient may have divergent as well as complementary interests. Thus, a partnership between a donor and recipient can be analyzed in terms of a mixed-motive game between two players. In particular, the iterated Prisoner's Dilemma game is helpful for analyzing the theoretical foundations of partnerships. Analyzing partnerships from this theoretical perspective suggests implications for selecting a partner, setting up a partnership, choosing a modus operandi, building trust, achieving selectivity, and performing monitoring and evaluation.

The theoretical framework offered here is deliberately kept very simple. The simplicity of the framework helps to highlight some important principles. The goal is to promote insight about some fundamental issues, rather than to provide a fully accurate rendition of all the complexities of partnerships for economic development.

II. How Partnerships Differ From Other Kinds of Relationships

A working definition of partnership is "a collaborative relationship between entities to work toward shared objectives through a mutually agreed division of labor" (World Bank, 1998, p. 5). While this working definition is not very precise, it does help distinguish partnerships from other forms of aid relationship.

1. A partnership is not a gift. A partnership aims at taking advantage of what the recipient, as well as the donor, can bring to the relationship. This can include local expertise, on-site workers, and a better understanding of priorities, needs and constraints.

[2] The theme of partnership can be traced back to 1969 when the Pearson Commission called for "a new partnership based on an informal understanding expressing the reciprocal rights and obligations of donors and recipients." (Pearson, 1969, page 127f. See also Helleiner, 2000).

Even more important, a partnership seeks joint "ownership" of the relationship, and tries to build the capacity of the recipient government to undertake sustainable development.

2. A partnership is not a relationship based on conditionality as a one-off event. Such conditionality presumes that donors can impose conditions to coerce poor countries to do things they don't want to do in order to obtain resources they need.[3] Some researchers even question whether strict conditionality has been effective at promoting development. (For a review see Gilbert, Powell and Vines, 2000, p. 59-65.) Partnership recognizes that both sides must be involved in defining the terms of the relationship.

3. Similarly, a partnership is not a principal-agent relationship between a donor and a recipient. In a partnership, the donor cannot prescribe the terms of the relationship in the way that an employer can specify terms of employment when hiring a worker.[4]

4. A partnership is not a simply "team" activity. In an ideal sports team, everyone has exactly the same interest in winning, and everyone on the team either wins or everyone on the team loses. While the members of a partnership for economic development certainly have strong interests in common, they are also likely to have some divergent interests as well.

Finally, although the formal terms of a partnership may be expressed in a valid contract under international law, the donor and recipient usually have no intention to use courts to resolve their conflicts. Instead, like nations bound by treaties, partners rely mainly on each other's need to maintain a good reputation to secure future agreements.

III. A Partnership as a Prisoner's Dilemma

In order to understand the theoretical foundations of a partnership, it is helpful to use game theory. In game theory, a relationship is defined by (a) identifying the players, (b) specifying the choices they have, and (c) spelling out the consequences of these choices in terms of the payoffs to the players. Analyzing the strategies available to the players reveals what is needed to foster mutually beneficial outcomes.

In the case of a partnership for economic development, the game can be specified as follows.[5]

1. The players are the donor and the recipient. The donor might be an international financial institution such as the World Bank, a non-governmental organization, a foundation, a group of countries such as the OECD, or a single country. The donor might even be a coalition of diverse contributors. The recipient in a partnership is often the government of a single country, although it might be a group of countries, a ministry in charge of some sector of a single country, or even a local organization.

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[3] A partnership is consistent, however, with conditionality seen as a process over time with mutual accountability (Branson and Hanna, 2000).

[4] The principal-agent framework is very useful for the examination of issues that arise from information asymmetries. For example, in partnerships for economic development the recipient often knows more than the donor about what is happening at the local level.

[5] Game theory has previously been used to model other aspects of the development aid. For example, conditionality has been modeled as a principal-agent game (Squire, 2000), and the enforcement of debt service has been modeled as a game with a choice to default (Anderson, Gilbert and Power, 1991).

.   2. The available choices can be quite complex. To highlight the theoretical aspects of a partnership, the choices can be reduced to just two: cooperate or defect. Choosing to cooperate at a given point in time means that the player performs the agreed upon terms of the partnership promptly and fully. Choosing to defect means that the player fulfills its obligations less than completely, or slower than agreed upon.

3. The consequences depend upon what each player has chosen. The basis of a partnership is that there is mutual gain to be had by working together. Thus, if both cooperate, both do well. However, there is typically a temptation to defect. Some reasons why a donor might be tempted to avoid some of its commitments include a desire to increase the amount of tied aid, a desire to reduce costs once it got credit for "flag raising," and a reluctance in practice to support leadership by the recipient government.[6] On the other hand, a recipient might be tempted to use some of its limited human and financial resources that were supposed to be devoted to the partnership for other pressing needs. In general, each side would typically prefer that the other fulfill its commitments, but have freedom to choose which of its own commitments will be fulfilled. Finally, if both sides defect by ignoring their commitments, neither does well because neither side gets the advantages of the partnership. These consequences are represented in the payoff matrix of Table 1.

Table 1. A Partnership as a Prisoner's Dilemma

		Donor	
		Cooperate	**Defect**
Recipient	**Cooperate**	R = 3, R = 3	S = 0, T = 5
	Defect	T = 5, S = 0	P = 1, P = 1

The first number in each cell is the payoff to the Recipient, and the second number is the payoff to the Donor. R is the Reward for mutual cooperation, T is the Temptation to defect, S is the Sucker's payoff, and P is the Punishment for mutual defection.

The payoffs need not be symmetric, or even comparable. What matters is the rank order of each player's payoffs.

The payoff matrix of Table 1 is a fundamental tool for understanding the theoretical foundations of partnerships. The numbers are meant to be suggestive only.

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[6] All three concerns were voiced in the workshop Making Partnerships Work on the Ground (1999, especially pp. 5and 14).

What matters is their rank order. Since the payoffs reflect the incentives of the players, each side wants to get as high a payoff as possible. For the reasons just described, the rank order of the payoffs in a partnership relationship (from best to worst) are: the Temptation payoff for defecting when the other cooperates, the Reward for mutual cooperation, the Punishment for mutual defection, and the Sucker's payoff for cooperating when the other defects.[7] With payoffs in this order the game is a Prisoner's Dilemma. Inspection of Table 1 reveals that in the Prisoner's Dilemma, each side has an incentive to defect, no matter what the other side does. But if both defect, both do worse than they could have done had both cooperated. That is the dilemma.[8]

Note that the payoff matrix presents the game as if the relationship is completely symmetric. Actually, this is unnecessary. The payoffs need not even be comparable between players. All that is necessary is that the payoffs for each player separately fulfill the conditions of the Prisoner's Dilemma – and this is likely to be true in almost any development partnership. Game theory provides methods for analyzing a very wide range of strategic problems. Since the Prisoner's Dilemma occurs in many contexts, it is one of most thoroughly studied games.[9]

If the Prisoner's Dilemma is played only once, there is no getting around the problem that each side has an incentive to defect, no matter what the other side does. This would result in a failure to achieve the benefits of mutual cooperation. However, if the game is played over and over, the strategic possibilities are very much richer. Fortunately, this is exactly the situation in a partnership where the relationship is not based on a single choice, but an ongoing interaction between the donor and recipient (Branson and Hanna, 2000).

In the iterated Prisoner's Dilemma, many strategies are possible since each player can make its current choice contingent on what has previously happened in the relationship. Cooperation theory is the study of what strategy a sophisticated player should use, and what conditions will sustain mutual cooperation. To study these questions, Axelrod (1984) organized a series of round robin computer tournaments in which both experts and amateurs were invited to submit a computer program that embodied their favorite strategy. In both rounds of these tournaments, there was one strategy that did best of all. This was the strategy called Tit for Tat. Tit for Tat cooperates on the first move, and then does whatever the other side did on the previous move.

By cooperating on the first move, and then doing whatever the other player did on the previous move, Tit for Tat managed to do well when interacting with a wide variety

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[7] Other games arise with other payoff structures. For example, if mutual cooperation is preferred to unilateral defection, there is no temptation to defect. The only issue in the resulting Assurance Game is for the players to assure each other that they are sensible. In this essay, I deliberately study the harder case of the Prisoner's Dilemma in which the players need to overcome their short run temptation to exploit the situation at the other's expense.

[8] The original story involves two prisoners who are being interrogated by the police. Each is given an incentive to confess to help convict the other, but if both confess, the police do not need either's testimony. Technically, the game is a Prisoner's Dilemma if the payoffs for both players satisfy not only $T > R > P > S$, but also $R > (T+S)/2$.

[9] A good introduction to game theory is Dixit and Skeath (1999). A more advanced game theory text is Fudenberg and Tirole (1992). For reviews on the theoretical and empirical literature on the Prisoner's Dilemma see Axelrod and Dion (1992) and Hoffman (2000).

of more or less sophisticated strategies. Tit for Tat's robust success was due to its being nice, provocable, and forgiving. Its niceness means that it was never the first to defect. Not being the first to defect prevented it from getting into unnecessary trouble. Its provocability meant that it retaliated when the other side defected. Provocability discouraged the other side from persisting in defection. By cooperating again as soon as the other player did, the forgiveness of Tit for Tat helped restore mutual cooperation.

Tit for Tat is not the only strategy that can succeed by being nice, provocable and forgiving. The important thing is reciprocity. For example, the strategy of Tit for Two Tats needs two defections to be provoked. One advantage of Tit for Tat over other forms of reciprocity is that it is easy for the other player to recognize. Once recognized, it is clear that the best way to respond to a Tit for Tat player is to cooperate.

An especially interesting aspect of Tit for Tat's success is that it never did better than any of the other strategies it played with. In fact, it can't since it never defects more often than the other player. This curious fact highlights the difference between a non-zero sum game like the iterated Prisoner's Dilemma and a zero-sum game like chess or basketball. The single most important theoretical lesson of game theory in general, and the iterated Prisoner's Dilemma in particular, is that most interactions are not zero sum games in which one side's loss is the other side's gain.

Perhaps the biggest surprise from the tournaments is the complementary point that to maintain stable cooperation in an iterated Prisoner's Dilemma, it is necessary to be provocable. In fact, the sooner one responds to a defection by the other side, the easier it is to restore mutual cooperation by establishing that defection doesn't pay.

A basic theoretical result is that the potential for mutual cooperation depends on "the shadow of the future". The shadow of the future is measured by w, the rate at which the payoff of the next move is discounted relative to the present. Cooperation based on Tit for Tat is stable if and only if w is at least as great as the larger of $(T-R)/(T-P)$ and $(T-R)/(R-S)$ (Axelrod, 1984, p. 207). Thus, as long as the shadow of the future is large enough, when one player is using Tit for Tat, the other player can do no better than using Tit for Tat as well – and this establishes mutual cooperation on a stable basis.

An unavoidable feature of partnerships is the possibility of misimplemenation or misunderstanding. With misimplementation, a player intends to do one thing, but actually does another. For example, a leader may decide to cooperate, but the rest of the organization may not properly implement the leader's choice. Misunderstanding occurs when a player does one thing, but the other player perceives it as something else. In either case, a single error can cause an echo of unending trouble between two Tit for Tat players (Molander, 1985). To deal with either form of error a player should be slightly more generous than simple Tit for Tat. For example, a player might be generous at the 10% level, meaning that 10% of the time that the player would otherwise defect, it cooperates instead. If a player realizes that it was responsible for the trouble due to its own misimplementation, it could even avoid responding to the other player's defection after its own unintended defection. This is called contrition. Deductive theory and computer simulation demonstrate that a Generous Tit for Tat strategy is effective at dealing with either type of error. Adding contrition further minimizes the disruptive effects of misimplementation (Wu and Axelrod, 1995).

IV. Implications for Partnerships

      1. Implications for Selecting a Partner

      The principle of "selectivity" is usually taken to mean that program aid should be reserved for countries that have adopted for themselves efficient pro-development policies (Hopkins et al., 2000, p. 290). Cooperation theory based on the iterated Prisoner's Dilemma suggests a related, but somewhat different set of considerations in choosing a partner.

      a. The more favorable the payoff structure, the easier it will be to achieve and sustain mutual cooperation. This implies that a potential donor or recipient consider more than just the potential gains from mutual cooperation. In selecting a partner, one should also consider the magnitude of the temptation to defect that the other will face.

      b. Similarly, the stronger the shadow of the future, the easier it will be to achieve and sustain mutual cooperation. A good partner is one who has a long enough time horizon that it will not want to exploit the relationship for immediate gain.

      c. A partner needs the organizational and managerial capacity to fulfill its responsibilities. It should not be overextended with other commitments.

      d. The potential for follow-on projects, especially at a larger scale, makes a partner a good prospect. This prospect of a follow-on project, especially one at a larger scale, makes success in the current project an investment in the continuing relationship.

      e. Selecting a partner who has a good reputation for cooperation has two benefits. It rewards good behavior in the past, and it increases the chances that the current partnership will succeed.

      2. Implications for Setting up the Partnership

      Once a donor and recipient have agreed to set up a partnership, the terms of the agreement need to be worked out. Theoretical and empirical research suggests that there are three aspects of an ongoing relationship that facilitate cooperation based upon reciprocity: clarity of obligations, promptness of feedback, and the institutionalization of reciprocity. In setting up a partnership, the participants should take care that these three conditions will be met throughout the partnership.

      a. Clarity of obligations is needed so that a cooperative choice can be distinguished from a defection. If the partners are not able to agree on whether a given action was consistent with their obligations, they are likely to get into mutual recriminations. Unfortunately, clarity of obligations competes with the flexibility of implementation. Until a deep bond of trust develops between the two sides, it may be better to err on the side of clarity of obligations rather than flexibility in setting up a partnership.

      b. Promptness of feedback means that each side can monitor the behavior of the other so that any problems can be addressed before they become major grievances. Promptness of feedback strengthens the shadow of the future by allowing a timely response to a perceived problem. Thus, in setting up the partnership, the obligations of the two sides should be chosen so that their performance (or nonperformance) is observable as quickly as possible.

c. The institutionalization of reciprocity can help by specifying in advance just what form of review and redress is open if either side has a complaint about the other. Maxwell and Riddell (1998) even suggest that what is needed is some kind of WTO agreement for aid administration. In the absence of such agreements, even informal norms can help prevent problems from echoing out of control (Axelrod and Keohane, 1985).

3. Implications for Modus Operandi

Once a partnership is underway, the question of modus operandi deals with how the partners should behave in their relationship. Obviously, mutual cooperation is the ideal. But what should one partner do if the other does not cooperate by fulfilling its commitments in a timely manner? Theory and simulations show that the sooner one is provoked, the smaller the response needs to be in order to be effective (Axelrod, 1984, p. 119 and 184f). Not responding promptly to an uncalled for defection risks sending the wrong signal. The longer defections go unchallenged, the more likely it is that the other player will draw the conclusion that defection can pay. And the more strongly this pattern is established, the harder it will be to break it.

The importance of provocability is increased when the relationship is being observed by others who are or may become partners with either of the participants. The reason is that reputation matters. This gives a recipient some leverage over a donor. For example, if a recipient is provoked, it cannot only withhold part of its contribution to the partnership, but it can also threaten to criticize the donor in forums that are important to the donor's reputation and self-image (Fox, 2000).

Provocability is also important for the donor. If, for example, a lending organization gets a reputation of allowing its partners to ignore their commitments without consequences, it may be difficult to hold other partners accountable in the future. This is the reason why the Grameen Banks, for example, are so insistent on prompt repayment of their microcredit loans (Bornstein, 1996). The Grameen Bank is willing, however, to allow late payment when there is a large external shock beyond the foresight or control of the recipient, such as an unusually devastating monsoon.[10]

In general, reciprocity is effective. In addition to being provocable, it is important to restore mutual cooperation as soon as possible by being forgiving when the other side returns to cooperation.

In a partnership for economic development, a recipient government may not always have the capacity to implement the decisions it reaches. In fact, even donors sometimes make promises that they fail to keep despite their best intentions. Moreover, there may be cultural differences between the donor and recipient that can contribute to misunderstandings. Thus, an uncalled for defection might be due to misimplementation

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[10] Another reason for adjusting the terms of the partnership would be if the premises of the project were revealed to be inaccurate. Suppose, for example, the partnership was designed to supply water from wells. If the wells do not give the expected yield, the partners should renegotiate their commitments, perhaps switching to laying pipes. The new agreement would redefine what counts as cooperation or defection in the partnership.

or misperception. In either case, it pays to be somewhat generous to prevent echoing of conflict. This can be done by not responding to some small proportion of the other side's defections, or by responding in a somewhat milder manner than usual. In either case, however, too much generosity invites exploitation. Also, if the other side's defection was simply a response to one's own unintended defection, it pays to be contrite by not letting the conflict continue.

4. Implications for Building Trust

Trust is crucial for establishing cooperation based on mutual obligation.[11]
Since building trust takes time, it is likely to take place mostly between projects rather than within projects. In theoretical terms, this suggests the importance of distinguishing two different time scales of a partnership: a particular project and the long-term relationship. A project is typically based on a single agreement lasting several years. Within this time scale there may be many "moves" as the partners fulfill their obligations. On a longer time scale, each project can be regarded as a single "move" in the relationship between the partners. An example is the relationship between Conservation International and Starbucks (Purcell, 2000, 66f). In the first partnership project, Starbucks committed $150,000 over three years to promote shade grown coffee. At the end of this period, Conservation International publicly praised Starbucks for helping farmers and for improving the natural environment. With this endorsement and with consumer acceptance of shade grown coffee, Starbucks signed a new three-year partnership quadrupling its commitment.
Theoretically, playing a game on a longer time scale has the advantage of providing more reliable feedback, but the disadvantage of having slower feedback. For the sake of building trust over time, the partners need a long time horizon as embodied in a strong shadow of the future. Theoretical work confirms that starting with small stakes and raising them as the relationship develops helps the partners avoid having to take "leaps of faith" (Roberts and Sherratt, 1998).

5. Implications for Achieving Selectivity

Donors need to be selective about the partnerships they enter, lest they spread their managerial and financial resources too thinly. Cooperation theory suggests some guidelines for deciding just how to be selective. We have already discussed the characteristics of a good partner. Here we add some strategic considerations based on how reciprocity can work at the project level.
a. If the recipient has not fulfilled the obligations of the current project, the donor can decide not to expand the project in the next phase or not to enter into new projects with this recipient. This has the advantage of helping to establish that cooperation needs to be mutual.[12] Put another way, to overcome a recipient's temptation to exploit the

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[11] This point is confirmed by a study of 17 joint ventures in the United Kingdom and Malaysia (Butler and Gill, 1999).
[12] Numerous simulation studies show that the ability and willingness to leave an unsatisfactory relationship actually fosters cooperation in the long run. For a review see Axelrod (2000, p. 146f).

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relationship, the donor needs to be provocable at the long time scale as well as the short time scale.

b. To avoid retreating from a country in need, a donor can be selective about the sector rather than the country. Thus if a project in one sector has not worked well, the donor may switch to a project in another sector of the same country. Assuming that the decision makers are at least somewhat different in the two sectors, this can be an effective strategy.[13]

6. Implications for Monitoring and Evaluation

Monitoring is the continuous assessment of project implementation, while evaluation is the periodic assessment of the project. In the aid community, the evaluation process is intended to serve two functions: institutional credibility and organizational learning. For institutional credibility, the acid test is performance on the ground. For this reason, accountability for result-based assistance has become a fundamental imperative (Piccioto, forthcoming). For organizational learning, the goal is not only to improve individual programs, but to make the results available to the global evaluation community.

From the point of view of cooperation theory, monitoring and evaluation can play an active role in sustaining the conditions needed for mutual cooperation. As discussed earlier, to achieve stable cooperation in an iterated Prisoner's Dilemma, each player needs to know in a timely fashion whether the other is fulfilling its commitments. In particular, knowing when the other side has defected is needed for provocability and forgiveness. Moreover, knowing when one's own side has defected (perhaps unintentionally) is needed for contrition.

Determining whether the partners are doing what they promised is a different task than the traditional role of evaluation of how well the partnership is achieving its goals. Periodic evaluation can be joined with continuous monitoring to assure the partners when mutual cooperation is being achieved, and to warn them when it is not.

Theoretically, the stability of cooperation relies on *both* partners having timely information about the actions of the other. In practice the donor is more likely to monitor and evaluate the recipient than the other way around.

> Whereas the behaviour and performance of low-income developing countries is measured and assessed in ever-increasing detail within the international community, the behavior and performance of the donor "partners" receives only cursory attention, except at the aggregate level which is of little operational usefulness to individual recipients (Helleiner, 2000, p. 34).

A step in the right direction is the World Bank's recently established Inspection Panel which investigates claims by local stakeholders that the Bank may have failed to adhere to its own operational policies, procedures in design, appraisal, or implementation of ongoing or new operations (Fox, 2000).

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[13] To the degree that aid is fungible across sectors, the effectiveness of this approach is reduced. See Devarajan and Swaroop (2000).

The unique position of the World Bank allows it to play an important role in economic development activities even when it is not a direct participant. The World Bank's multinational character, size and experience allow it to play an increasingly active role as catalyst in identifying and promoting promising activities (see for example Gilbert, Powell and Vines, 2000). Cooperation theory suggests that even after a partnership is set up, there are valuable services that could be performed by a credible outside organization such as the World Bank. Among these potential services are:

        a. promoting accounting standards to allow timely feedback on the performance of partners,

        b. certification that partners are being responsible in fulfilling their obligations, and

        c. sponsorship of institutional mechanisms for redress if one side of a partnership has a complaint about the other.

V. Conclusion

A partnership for economic development includes divergent interests as well as shared objectives. Analyzing a partnership as an iterated Prisoner's Dilemma reveals the theoretical conditions needed to sustain mutual cooperation. These conditions lead to important implications for how to promote the effectiveness of such partnerships. The implications concern selecting a partner, setting up a partnership, choosing a modus operandi, building trust, achieving selectivity, and performing monitoring and evaluation.

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