

International donor agencies' incentive structures and foreign aid effectiveness

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Abstract: This paper examines in depth one of the potential causes of the low performance of foreign aid; in particular, the role incentive structures within international donor agencies could play in leading to 'a push' to disburse money. This pressure to disburse money is termed as the 'Money-Moving Syndrome' (MMS). The theoretical analysis in this paper relies on the principal–agent theory to explore how donor agencies' institutional incentive systems may affect the characteristics of an optimal and efficient incentive contract and thus give rise to the MMS. The basic framework of the principal–agent theory was innovatively adapted to fit the organizational settings of donor agencies. The model concludes that the extent to which a performance measure based on the amount of aid allocated within a specific period of time would lead to the MMS and affect aid effectiveness depends on the level of 'institutional imperatives', the degree of aid agency's accountability for effectiveness, the level of corruption in recipient countries and the degree of difficulty to evaluate development activities.

1. Introduction

Aid ineffectiveness, defined as the low performance of aid in promoting economic growth and reducing global poverty, is a problem utterly complex, prevalent and unfortunately still unresolved. For decades now, it has generated a huge literature reaching conflicting conclusions as to the justifications of aid, the impact of aid on growth and institutional reforms, and the role of economic and political institutions in aid effectiveness. Western countries, international donor agencies, recipient countries, and other agents in the aid delivery chain have been pondering why, after \$2.2 trillion of official development assistance transferred to developing countries since 1960 and in spite of countless reform approaches (such as Financial Gap Approach, Sectoral and Structural Adjustments, Poverty Reduction Strategies, the Heavily Indebted Poor Countries Initiative, and so on), many aspects of the performance of international development assistance yet appear dismal.

In the discourse of foreign aid, the potential causes of the shortcomings of development assistance to promote economic growth and self-sustainability in poor countries appear to be manifold, ranging from weak policies and

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institutions in recipient countries to problems within the donor agencies themselves.

The contribution of this paper is to examine in depth one of the potential causes of the low performance of foreign aid, in particular the role incentive structures within international donor agencies could play in leading to 'a push' to disburse money. In effect, donors' incentives to 'move the money' may potentially hinder their genuine intentions to help poor countries, rendering these efforts ineffective and possibly in some cases, making an already deplorable situation in developing countries worse. This incentive to disburse money is termed as the 'Money-Moving Syndrome' (MMS hereafter). In this paper, the MMS exists when the quantity of foreign aid committed or disbursed becomes, in itself, an important objective side by side or above the effectiveness of aid.

A fundamental reason to limit the scope of this paper to institutional framework within donor agencies is that without this transfer of funds to developing countries, there would be not much 'foreign aid'. If the objective is to maximize the effectiveness of aid, it would appear essential to enhance the design and objectives of aid resources *at the source*, i.e. at the stage where the funds originate with donors, before considering the causes tainting aid in recipient countries.¹

This paper contributes to the existing literature on aid effectiveness in several ways: first, it extends the principal-agent model developed in Baker (1992) to fit the organizational settings of international development agencies (whether bilateral or multilateral); second, the paper innovatively explores how donor agencies' institutional incentive systems may affect the characteristics of an optimal incentive contract and thus give rise to the MMS; third, the developed theoretical model derives conditions required to reach an efficient outcome in terms of the impact of aid on poverty reduction and sustainable economic growth.

The model concludes that the extent to which a performance measure based on the amount of aid allocated within a specific period of time would lead to the MMS and affect aid effectiveness would depend on the level of 'institutional or organizational imperatives' (such as survival, growth, achieve and/or maintain higher status or leadership position, have greater 'market share', or promote strategic interests of stakeholders or donor countries, etc.), the degree of aid agency's accountability for effectiveness, the level of corruption in recipient countries and the degree of difficulty to evaluate development activities.

The remainder of the paper is organized as follows: Section 2 reviews the groundbreaking studies that attempted to address the incentive mechanisms

1 Of course, the misuse of aid funds by recipient countries is an equally deserving aspect of aid effectiveness. However, this paper does not address this aspect. See Boone (1996), Klitgaard (1991), World Bank (1998), Lancaster (1999), Svensson (2000), Alesina and Weder (2002), and Transparency International (2007) for a discussion of these issues.

within international development agencies as a potential, if not primary, source of the ineffectiveness of foreign aid. Section 3 highlights the institutional incentives and opportunities for money moving behaviors within international development agencies. Section 4 develops a principal–agent model to explore how donor agencies' institutional incentive systems may affect the characteristics of an optimal incentive contract and thus give rise to the MMS. Section 5 contains concluding remarks and potential policy implications of the analysis conducted.

2. Literature review: donor agencies' incentive structures and the 'money-moving syndrome'

This section reviews some of the few studies that have endeavored to shift the focus away from developing country's shortcomings to international donor institutions, in analyzing the partial failure of foreign aid. These studies posit that because international aid organizations are involved in the identification, design, and implementation of development assistance activities, they ought to be partially responsible of the low performance of aid in promoting economic growth and reducing poverty in developing countries.

While there has been a proliferation of studies on the impact of aid based on recipient countries performance, very few studies have attempted to address the incentive mechanisms and, in particular, the incentive to 'move the money', within international development agencies as a potential, if not primary, source of the low performance of foreign aid. Although frequently acknowledged as a problem in donor agencies, the incentive to 'move the money' has nevertheless been very often treated in an incidental manner in the aid literature.

This restricted literature may possibly be divided in two ways: (1) studies on how incentives and constraints faced by aid organizations affect the performance of aid (*macro-institutional approach*);² (2) studies on how incentives and constraints faced by staff in those organizations affect the performance of aid (*micro-institutional approach*).³

Macro-institutional approach and the incentives to 'move the money'

During the 1970s, Tendler (1975) was already alerting the international scene to how multilateral agencies and bilateral agencies' organizational environments, in particular USAID, could impinge upon foreign aid outcomes. Among USAID shortcomings hindering the effectiveness of aid, Tendler (1975) mentioned the pressures to move out the money. Tendler also added that the MMS was not

² These organizations in the aid business encompass 'taxpayers, donor organizations, politicians, lobby groups, donor agencies and consultants in donor countries and recipient organizations in beneficiary countries' (Martens et al., 2002: 1).

³ In the macro-institutional approach, a donor institution is considered as a single homogenous agent, whereas in the micro-institutional approach, the donor institution is made of different individuals with different interests. Those concepts are well developed by Frey *et al.* (1985).

unique to development agencies funded by annual government appropriations like the USAID; indeed the pressures to spend were just as great in the World Bank as in the USAID. In Tendler's view, the existence of money moving behavior may have the consequence of switching a donor organization's sense of mission away from economic development to the commitment of resources. She argued that a potential explanation of the MMS lies on the standards by which development agencies judge their performance (i.e. the quantitative estimates of development assistance needs) and how the agencies are judged by the outside world.

Tendler's views were corroborated by Lancaster (1999). Lancaster argued that there are two sides of the aid effectiveness equation: (1) on the one hand, there are recipient countries with limited natural resources, political instability, corrupt and incompetent governments; and weak policies and institutions; and (2) on the other hand, there are donor agencies often constrained in their autonomy and/or capacity. Lancaster identified pressures to spend available funds as one factor limiting the capacity of both the USAID and the World Bank to 'identify and design policies, projects, and programs and implement them' in such a way as to take into account the circumstances of recipient countries.

Three major reports also acknowledged this problem. The World Bank's Wapenhans Report, analyzing the factors that affect the development impact of the World Bank operations, found that a 'pervasive culture of approval' for loans and 'pressure to lend' resulted in a decline in project quality (World Bank, 1992). Another report, issued by the World Bank in 1998, revealed that aid agencies' ability to work in distorted economies has been hampered by their disbursement culture. Indeed, because aid agencies' primary objective was to 'dish out money', much went to countries with poor institutional and policy environments (World Bank, 1998). The Meltzer Commission Report (2000) found that incentives to 'move money' are built in the structure of the Development Banks, and 'internal budget resources are awarded where loan volumes are high, not where the number of worthwhile projects is highest or where technical assistance and knowledge transfer are favored over funding'.⁴ This report concludes that 'rewards for lending and no penalties for project failure dilute concern about project performance'.

Easterly (2006) argued that development agencies apply the volume of foreign aid as a measure of success, and as such consciously confuse aid disbursements as an output to development rather than an input.

Finally, in a more recent study analyzing the determinants of successful World Bank's infrastructure investments, Limodio (2011) found that successful infrastructure projects, crucial to promote development and enhance capital accumulation, depend on the quality of implementation or the performance of implementers or borrowers. Successful project implementation, in turn,

⁴ The Meltzer Report (2000) was commissioned by the U.S. Congress as part of the legislation authorizing \$18 billion of additional U.S. funding for the IMF.

is positively affected by the performance of the World Bank through its knowledge and financial support. Additionally, the author found that the selection of solid projects (or selectivity) is an essential factor to the success of infrastructure programs. The paper recommended that the World Bank should strengthen its capacity building programs within recipient countries' infrastructure implementing authorities and finance only well-designed and solid projects given that only successful projects deliver substantial development results. The author, however, argued that one factor that may hinder the implementation of this strategy is the incentive structure prevailing within Multilateral Development Banks and World Bank. In effect, Limodio (2011) argued that 'fast lending' or the pressure on lending speed tend to be more valued than an emphasis on project screening and elaboration and recipient countries' pro-growth sectors. As such, the World Bank should promote internal reforms that would align incentives toward promoting more selectivity and developing more project-specific *a priori* analysis which are essential to develop successful projects.

Micro-institutional approach and the incentives to 'move the money'

In 2001, the Swedish International Development Agency (SIDA) published a report examining the link between aid, incentives and sustainability in an attempt to improve the performance and sustainability of its development assistance (Ostrom *et al.*, 2001). The report provides an extensive account of the importance of incentives as they underpin aid performance and recommends strategies to mitigate perverse incentives. The SIDA study constitutes the first attempt to collect data on the behavior of staff members and other agents involved in the delivery of aid. The authors interviewed over 175 SIDA staff and other people involved in the aid process, and found that SIDA is not immune to the incentives to 'move the money'. In fact, SIDA officers feel a strong pressure to disburse money, especially at the end of the budget year. The report offers some explanations of the SIDA's resource-driven environment: the Swedish's commitment to increase aid allocations to reach 1% of GNP and the fear that uncommitted resources will be considered unnecessary and not re-budgeted in subsequent years.

Martens *et al.* (2002), using the principal-agent model and its variants, explained that for decades foreign aid failed to achieve its goals because of incentive structures affecting agents' behavior in the aid delivery processes. They argued that most of the problems encountered in the aid business stem from two elements: one element is the fact that the beneficiaries of aid are not the same as the taxpayers in rich countries providing aid. This 'broken feedback loop' deprives aid recipients of the power to reward or punish public official and/or aid organization. The second element is the multiplicity of principals and objectives, which restrains the efficiency of aid. In the view of these authors, a broken information feedback loop combined with difficulties to measure performance

have pushed aid officials toward an excessive focus on 'input' activities, such as budget and personnel, rather than the quality of output. They also noted that careers within aid agencies are often determined by the staff's performance in easily monitorable tasks such as 'committing and spending budgets'. In this context, they argued that straightforward independent evaluations of foreign aid projects and programs appear crucial to reestablish information feedback between donors and recipients and to improve aid performance.

Finally, Wane (2004), an economist at the World Bank, argues that donor agencies' internal incentive system in the design of aid projects affects the quality of aid and thus its effectiveness. Wane showed theoretically and empirically that the quality of aid depends on the capacity and accountability of aid recipients. It also depends on the impact the incentive system has on the effort the staff put in designing development projects. If the incentive system within the aid agency is such that staff promotion depends on project approval rather than project performance and if the aid recipient government has a weak screening capacity, then the recipient government will receive poorly designed aid projects. However, if the recipient government has a high screening capacity, it will only accept bad projects if it has a low accountability.

In conclusion, few previous aid effectiveness studies focusing on international development agencies corroborated the idea that aid agencies institutional frameworks may hinder their genuine intentions to help the poor. These studies helped our understanding of the fact that aid organizations are bureaucracies making their own set of formal and informal rules. These organizational rules would structure incentives for all agents involved in the chain of aid delivery, may make aid agencies powerful, or lead them to inefficient behaviors (Barnett and Finnemore, 1999).

In this context, this research proposes a simple theoretical framework examining some adjustment mechanisms that could reduce both institutional incentives to 'move the money', and windows of opportunities for money moving behaviors.

3. Analytical framework: institutional incentives and opportunities for money moving behaviors

This section identifies aid agencies' institutional incentives and windows of opportunity that may lead individuals to engage in money moving behaviors.

Three factors might be identified as providing a motive to money moving behaviors within bilateral or multilateral development agencies: (1) the organizational imperatives to survive and grow and its corollary the remunerative incentive to move the money; (2) donor countries' strategic interests; and (3) the lack of checks and balances and the constraints in the delivery of aid which potentially allow the money-moving syndrome to set in and thrive. It is important to point out that, because bilateral and multilateral aid agencies

have different organizational structures and different approaches to deliver programs and policy advice, the aforementioned organizational imperatives, strategic interests, and constraints would be experienced at different levels across aid agencies; nevertheless, they are likely to be translated into similar actions across organizations.

Organizational imperatives to survive and grow

According to Dichter (2003) and Ellerman (2005), 'organizing' international development assistance, while being necessary and inevitable, appears to be one factor preventing the achievement of its ultimate goals: poverty alleviation and economic growth. First, 'organizing' development assistance has led to unavoidable organizational imperatives, such as employees' determination to maintain their jobs and succeed within the organization, and organizational imperatives for 'survival', perpetuation, recognition and growth.⁵ Second, because organizations in the same line of work tend to conglomerate, development assistance has become an 'industry'. As such, it has furthered its imperatives to protect the interests of its members and ensure its own survival, sometimes, over its fundamental mission.

Dichter's characterization of development organizations might provide a strong motive for 'money moving' at the agent and organizational levels, and might plausibly explain why aid organizations would be as equally concerned with moving the money as with the effectiveness of the development assistance they provide.⁶ A probable important corollary of the organizational imperative to survive and grow would be the remunerative incentive to move the money: as evidenced in the literature review, aid providers are evaluated and rewarded according to the level of aid resources they disbursed rather than the ability of these resources to promote economic growth and reduce poverty.⁷

Donor countries' strategic interests

Additionally, strategic interests of donor agencies may provide a motive to money moving behaviors within bilateral or multilateral development agencies. One common explanation of the aid ineffectiveness used in the literature emphasizes that donor countries' strategic interests have frequently dominated recipient

⁵ Hancock (1989: 72) called these 'bureaucratic survivalism'. These self-perpetuation imperatives run counter to donor agencies' objective to bring development to poor countries. In fact, Dichter (2003) argued that if development were successful in developing countries, donor agencies would no longer have a *raison d'être*, and thus questioned the fact that aid agencies *will voluntarily go out of business* by bringing development to the Third World.

⁶ Dichter (2003) acknowledged that survival imperatives can also incite donor agencies to be more effective and undertake activities such as self-examination retreats, strategic planning workshops, and internal reviews to help them achieve effectiveness; but according to Dichter more of these internal reviews are about prospects of survival than they are about concern for effectiveness.

⁷ See also Transparency International (2007) and OECD/DAC (1999).

countries' needs and merits as aid allocation criteria within aid agencies.⁸ Donor strategic interests generally include diplomatic interests (e.g. establishing military bases, securing UN votes, supporting a preferred regime); commercial interests (e.g. 'tied' aid, providing exports subsidies to donor countries firms, focusing on projects with high foreign exchange components; and cultural interests usually provided to promote a donor's religion, language, or values (Lancaster, 1999).

The preponderance of donor interests over recipients' needs and merits, as aid allocation criteria, appears to be present within both bilateral and multilateral aid agencies, though with less intensity in the latter.

Many empirical studies investigating the determinants of aid, especially which donor country gives to which recipient country and why, concluded that bilateral aid most of the time favored former colonies and political allies over recipient countries' needs or policy and institutional environments. For instance, empirical evidence showed that the U.S. allocation of aid is mostly influenced by its interests in the Middle East; France mainly employs foreign aid as a tool to maintain and foster its cultural, economic and political ties with former colonies; and Japan tends to give more aid to investment and trade partners. Only smaller donors such as Netherlands and the Scandinavian countries provide aid to poor countries according to economic necessity and sound management (World Bank, 1998; Alesina and Dollar, 2000; Fleck and Kilby, 2005a; Allen, 2006).

If bilateral aid giving appears to be tied to donor interests and less sensitive to recipients' need, multilateral development agencies, however, tend to be more need-based oriented in their aid allocations (Roodman, 2006; Burnside and Dollar, 2000; Alesina and Dollar, 2000; Milner, 2006; Allen, 2006). Unfortunately, multilateral aid agencies, albeit 'independent' and 'apolitical',⁹ have nonetheless been known to further the interests of their most prominent member countries. For instance, Frey and Schneider (1986) analyzed the lending behavior of the World Bank between 1972 and 1981. They found that the 'politico-economic model', which assumes among other things that the Bank extends more credits to poor countries to which top member countries export a large share of goods, explains best the World Bank behavior. In a more recent paper, Fleck and Kilby (2005b) showed that not only U.S. interests (e.g. recipient countries' importance to the U.S. as trade partners, U.S. commercial financial flows into and out of poor countries) influence the World Bank lending patterns; but that influence varies across presidential administrations. Kilby (2006), using a panel data for less developed Asian countries from 1968 to 2002, revealed that the Asian Development Bank (ADB) aid giving is tied to Japan and the United States' interests. Consequently, the autonomy of multilateral aid agencies may be

⁸ This is the part of the aid literature that studies the determinants of foreign aid, in particular the reasons why certain donors give to certain recipient countries.

⁹ See Fleck and Kilby (2005b) for more details.

somewhat circumscribed as the autonomy of bilateral aid agencies, but certainly to a lesser extent.¹⁰

Lack of checks and balances and constraints in the delivery of aid

These factors may potentially allow in aid agents' perverse behaviors that are generally observed in the aid delivery chain. They consist of (1) limited feedback and accountability, and (2) difficulty to evaluate and quantify the performance of aid.

One essential characteristic of foreign aid appears to be a 'broken information feedback loop' existing between taxpayers in western industrialized nations generating aid resources and intended beneficiaries in poor countries. Associated with this broken feedback may be a limited final accountability both at the aid bureaucracy level and at the staff level (Martens *et al.*, 2002). In this section, *aid agency accountability* or *staff accountability* is defined as an aid agency's or aid agent's 'obligation to demonstrate that work has been conducted in compliance with agreed rules and standards or to report fairly and accurately on performance results vis a vis mandated roles and/or plans' (OECD/DAC, 2002).

According to Martens *et al.* (2002), the geographic and political separation between taxpayers and beneficiaries result in the fact that aid recipients have no means to communicate their own needs, or to communicate whether those needs have been met, to 'reward' or 'punish' donors' actions, or to question the adequacy of what donor agencies provide them. This is seemingly unlike the political process in modern democracies where the taxpayers (voters) are the same as the beneficiaries and could therefore, to some extent, exercise political pressure on public bureaucracies to improve performance and satisfy their needs.

Additionally, feedback without accountability would lead to inefficient outcomes. And there seems to be limited accountability both at the aid institution level and at the aid agency's staff level. For example, in a particular country where numerous aid agencies operate simultaneously and jointly to promote its economic development, the outcomes of their individual efforts would be difficult to evaluate, and thus no specific agency could be held accountable. Unfortunately, many developing countries seem to have at one point or another experienced this situation.

If there is staff accountability in bilateral or multilateral donor agency, a top executive or country manager, for example, is liable to being called to account for: first, the disappointing performance of a specific aid project or program he/she directs (in case of short time-bound projects); and second, the deficiencies in a specific project phase involving the said staff (in case of development projects

10 The autonomy of the World Bank for instance might be limited through the vehicle of triennial IDA (International Development Association) replenishment negotiations (Frey and Schneider, 1986; Lancaster, 1999; Fleck and Kilby, 2005b).

requiring long periods of time).¹¹ Incidentally, the staff accountability may be achieved through an adequate system of institutional checks and balances provided by a strong executive authority. However, for such a system to be effective, two elements ought to be present. First, the executive or manager should be held accountable for not only projects at hand, but also for past projects he/she supervised (*retroactive individual accountability with positive or unlimited prescription*). Long project cycles make it difficult to assess the accountability of the staff. Aid agents in charge of those projects would have moved on before a systematic evaluation is conducted. In addition, short-term assignments to field positions and high employee rotation across departments at headquarters are usually frequent in most aid agencies. While they expose the staff to a variety of experiences, short-term assignments prevent them to see all phases of a particular project, from design to evaluation stage (Gibson *et al.*, 2005). Second, if found somewhat responsible for the bad results of a development project, the top executive or country manager should be liable to be 'punished'.¹² In this regard, we might unfortunately observe that if there has often been a system of checks and balances ex-ante in the aid delivery process, an ex-post mechanism of checks and balances would not seem to be always in place (Ostrom *et al.*, 2001). A corollary of such a system would be that once the top executive or country manager is accountable, he/she would hold accountable all staff members under his/her chain of command and carry out punishment.

Another characteristic of foreign aid would be the difficulty to evaluate and quantify the overall impact of aid, but also the costs and time a rigorous evaluation would entail. Very often, the lack of comparable baseline database and controlled experiments would make it impossible to tease out the influence of a particular aid project or program from the influence of environmental factors or random shocks. Furthermore, establishing such control and treatment groups might not only prove to be costly and time consuming, but also unfeasible for the project at hand, due to methodological or ethical constraints. For instance, it would be inappropriate to establish randomization methods with development projects such as universal primary education and anti-retroviral HIV/AIDS drugs interventions (Bourguignon and Sundberg, 2007; Birdsall, 2004; Radelet, 2003). Under these murky conditions, it might be very difficult to attribute the failure of development projects or programs to donor agencies involved in them, thus providing them with a fair amount of latitude in their design of development policies in the Third World.

11 The World Bank identifies the following phases in a project cycle: Country Assistance Strategies, the Identification Phase, the Preparation Phase, the Appraisal Phase, the Negotiation and Approval Phase, the Implementation and Supervision Phase, the Implementation and Completion Phase and the Evaluation Phase (<http://go.worldbank.org/GI967K75D0>).

12 Punishment could involve removal from a project or program, elimination of certain perquisites, or even dismissal.

In conclusion, 'organizational imperatives' which hereafter refer to imperatives such as survival, perpetuation, recognition, growth, achieving and/or maintaining higher status or leadership position, have greater 'market share', promote stakeholders' or donor countries' strategic interests, as well as the lack of checks and balances, are incentives at the aid agency level that might allow the 'MMS' to set in and thrive.

4. The theoretical model

This section proposes a simple theoretical model that explores how incentive structures within international donor agencies may lead to 'a push' to disburse money; it also examines the extent to which these incentives might lead to inefficient allocations of aid resources and may inhibit the ability of foreign aid to promote economic growth and reduce poverty.

The principal-agent framework

The general approach we use to model the problem at hand is the principal-agent model (Baker, 1992; Gibbons, 1998; Prendergast, 1999; Courty and Marschke, 2003). Other approaches are possible (such as surveys of development agencies incentive systems, or case studies), but we believe the principal-agent framework best fits the main dimension of the problem and can provide a wealth of insights and implications.

Let us assume there is an international aid organization (the principal), bilateral or multilateral, whose mission is to allocate aid so as to maximize poverty reduction and economic growth in poor countries. To achieve this objective, the aid agency relies on its staff members or the bureaucrats (the agents) to allocate aid funds to aid-receiving countries. The aid agency also establishes its internal incentive structure within which its personnel operate.¹³ This is a fundamental aspect since the aid institution incentive system determines the performance evaluation criteria that would be used to design incentive contracts of staff members.

An ideal performance measure in an incentive contract reflects an employee's contribution to the organization's total value.¹⁴ However, in many organizations (non-profit organizations and government agencies), employees' contribution to the organization's total value function is not objectively measurable; it is either too complex or too subtle to be objectively evaluated and thus cannot be used in an enforceable contract with employees. In other words, the principal's value function cannot be objectively measured (Baker, 1992; Baker *et al.*, 1993;

¹³ This is borrowed from Wane (2004) who showed that both the incentive system prevailing within an aid agency and a recipient country's characteristics affect the quality of aid.

¹⁴ The organization's total value refers to its fundamental objective or mission.

Gibbons, 1998; Prendergast, 1999; van Praag and Cools, 2001; Courty and Marschke, 2003).

The inability to use the organization's objective (total value) as a basis for incentive contracts leads to the use of various alternative methods of performance evaluation which have the ability to be objectively measured.¹⁵ The relevant issue when using (imperfect) performance measurements is whether the measure used in the incentive scheme may lead to dysfunctional behavioral responses that will deteriorate or not further the true goal of the organization due to the prospect that agents tend to focus only on those aspects of the performance measure that are rewarded (Lindsay, 1976; Baker *et al.*, 1993; Prendergast, 1999; Courty and Marschke, 2003).

As Baker (1992) has argued, in these circumstances, to avoid distorted incentives and obtain a contract that yields first-best outcomes, the performance measure should accurately reflect the organization's objective; in other words, the marginal product of effort (or agent's actions) on the performance measure should be perfectly correlated with the marginal product of effort on the organization's objective.

Here, we will follow the framework developed in Baker (1992) and adopt the model to our specific goals.

A succinct overview of the premises of Baker's model is as follows: $V(e, \varepsilon)$ denotes the organization's objective (or the organization's total value or the agent's total contribution to the organization value) as a function of the agent's effort e (unobservable) and a vector of random variables ε . $V(e, \varepsilon)$ is not contractible, i.e. it cannot be directly implemented in a contract. On the other hand, $P(e, \varepsilon)$ denotes the (alternative) contractible performance measure as a function of the same variables. $P(e, \varepsilon)$ is scaled such that the expected marginal product of effort on performance measure equals the expected marginal product of effort on value: $E[P_e(e, \varepsilon)] = E[V_e(e, \varepsilon)]$.¹⁶

An important assumption is that the agent is asymmetrically informed about the state of the world (ε) and his informational advantage affects the choice of his effort.

Neither the principal nor the agent knows ε before signing the binding contract, but the realization of ε is known to the agent before he chooses his effort. Furthermore, it is assumed that at least some components of ε affect the marginal product of the agent's effort level on both the performance measure (P_e) and the value function (V_e). Hence, from the perspective of the principal, these marginal products are random variables. The degrees to which the two marginal products (V_e and P_e) vary with the state of the world (ε) are denoted by

¹⁵ The principal can also rely on discretionary subjective performance measures, such as worker's cooperation, innovation, and dependability, which may complement or improve on the available objective performance measurements (Baker, Gibbons, and Murphy, 1993).

¹⁶ The expectation operator is taken over ε , the vector of random variables.

σ_{V_e} and σ_{P_e} , the standard deviation of V_e and P_e with respect to ε . Additionally, in Baker's model, the agent is assumed to be risk neutral.¹⁷

Extension of the principal-agent model to a donor agency

Taking the 1992 Baker model as a basis, our goal is to extend the analysis to the case of development assistance by examining how incentive structures within international donor agencies (whether bilateral or multilateral) may lead to 'a push' to disburse money and the extent to which these incentives may inhibit the ability of foreign aid to promote economic growth and reduce poverty. Specifically, the model explores how donor agencies' institutional incentive systems affect the characteristics of an optimal incentive contract and thus give rise to the 'MMS'. Additionally, the model derives conditions required to reach an efficient outcome in terms of the impact of aid on poverty reduction and sustainable economic growth.

It follows from Baker (1992) that an aid organization's mission to maximize poverty reduction and economic growth is part of its total value function. In effect, aid agencies are part of a chain of principal-agent relationships, which starts with taxpayers and their legislative representatives as principals who are willing to transfer appropriated funds to developing countries. They thus delegate the implementation of development programs to an aid agency. The aid agency, in turn, becomes the principal to other agents in the aid delivery chain (Martens *et al.*, 2002). Hence, the objective or the mission of an aid organization (i.e. global poverty alleviation and sustainable economic growth) is mostly defined by those ultimate principals who provide aid resources (e.g. citizens, taxpayers).¹⁸ However, aid agencies, as agents, are also likely subject to 'organizational imperatives' such as survival, growth, achieve and/or maintain higher status or leadership position, have greater 'market share' or promote interests of stakeholders, and so on. In this case, stakeholders' interests may be assimilated with donor countries' strategic interests mentioned in Section 3.

In the corporate world, these imperatives are completely integrated into the total value function. In development assistance, it cannot be the case; indeed, being effective for an aid agency, or accomplish its mission as stated above, would mean to 'shorten the organization's lifespan, not lengthen it', which runs counter to its imperative to survive or grow. Although these 'organizational imperatives' are experienced at different levels across aid agencies,¹⁹ they may be translated into similar actions across organizations. Donors, whose explicit

¹⁷ Interested readers may refer to Baker (1992) for a detailed discussion of the theoretical model.

¹⁸ Note that in some cases, for example, the World Bank, part of its resources comes from loans mobilized on international capital markets.

¹⁹ It may be argued that some development agencies, such as the World Bank Group, would not be concerned about, for example, survival in the short-run given the number of poor in the world. Nonetheless, in the long-run, as development takes place and is both successful and sustainable, those agencies may become less necessary.

goal is to alleviate poverty and promote growth, are committed by the very nature of their mission to deliberately put themselves out of work (Dichter, 2003; Ellerman, 2005).

Thus, when they are faced with the prospect of survival and/or growth or achieving donor countries' or stakeholders' strategic interests, aid organizations, though caring about development, may naturally take actions that run counter or preclude this mission and may institute an incentive system and performance evaluation criteria somewhat fostering these organizational imperatives. Hence, an aid organization will value two elements: its true mission (aid effectiveness) and its 'organizational imperatives'.

This dichotomy in the objectives of aid assistance could be illustrated by President Ronald Reagan's words:²⁰ 'Our foreign aid is not only a symbol of America's tradition of generosity and goodwill, but also a servant of our national interest'; or by the USAID's declaration: 'Foreign aid doesn't cost Americans, it pays' (Hancock, 1989: 161).

We proceed to extend Baker's model (1992) as follows: let $V(e, \varepsilon)$ denote the aid agency's true mission, i.e. to promote aid effectiveness in terms of maximizing poverty reduction and economic growth. As before, $V(e, \varepsilon)$ is a function of the agent's effort e (unobservable) and a vector of random variables ε . Let $O(e, \varepsilon)$ denote the aforementioned 'organizational imperatives', as a function of the same variables. Note that $V(e, \varepsilon)$ is not contractible because the agent's (staff in the aid agency) contribution to development is difficult to observe and evaluate. $O(e, \varepsilon)$ is also not contractible for similar reasons.

The aid agency is thus required to choose an alternative performance measure easy enough to monitor or evaluate that it can be used in an incentive contract with the staff. Let us assume that the aid agency decides on a performance measure $P(e, \varepsilon)$ defined as the volume of aid allocated within a specific period of time; e then becomes the agent's effort exerted for project identification, design and preparation. The rationale for such a choice of performance measurement is as follows: considering a development institution is in the business of 'transferring' money from taxpayers in the developed world to the poor in the developing world and in a context where aid workers' contribution to development is difficult to observe and evaluate, a tendency will arise to measure performance according to the size of budgets allocated to implement and finance development projects and programs for the reason that this performance measure appears convenient and is easily monitorable. A corollary of this rationale would be to determine as to under which conditions the volume of aid allocated would be more likely directed toward poverty alleviation or/and organization imperatives purposes.

²⁰ Since its inception in the 1950s, foreign aid has been used for two not always reconcilable purposes: (1) serve the interests of donor countries and their domestic constituencies; and (2) increase the wellbeing of the poor in developing countries.

Model's assumptions 1

In line with Baker's model premises, let us consider the following assumptions:

$$E[P_e(e, \varepsilon)] = \gamma E[V_e(e, \varepsilon)] + (1 - \gamma)E[O_e(e, \varepsilon)], \quad (4.1)$$

where $\gamma = \frac{\theta}{c+m}$ and $0 \leq \gamma \leq 1$ with $0 \leq \theta \leq 1$, $0 \leq c \leq 1$, $0 < m \leq 1$.

Equation (4.1) states that the extent to which the expected marginal product of effort on the performance measure is related to the expected marginal product of effort on both 'organizational imperatives' and the goal to reduce poverty depends on parameters θ , c , and m .

The parameter θ is a measure of the degree of accountability in the development agency, specifically accountability for effectiveness with $\theta = 1$ denoting perfect accountability. Parameter c represents the level of corruption in recipient countries, with $c = 1$ characterizing highly corrupt countries. The degree of difficulty to measure or evaluate the performance of development projects or program aid is denoted by m , where $m = 1$ embodies development activities whose effectiveness is very difficult to evaluate.

Accountability is defined as 'the means by which individuals and organizations report to a recognized authority, or authorities, and are held responsible for their actions'; and accountability for effectiveness is 'the extent to which the combined impact of an aid agency's portfolio of projects is in fact positively contributing to sustainable development' (Crawford, 2004). The concept of accountability also implies the possibility of negative evaluation accompanied by sanction, or the possibility of positive evaluation and reward (Wenar, 2006).

Today, there is a general consensus that corruption, defined as the 'abuse of public office for private gain', deters economic growth and poverty reduction and should be eradicated (Transparency International, 2007). In recipient countries, especially those countries where development resources constitute a large source of finance, corruption would prevent aid to reach the targeted beneficiaries and would lessen the magnitude of the impact of aid.

Evaluation of development activities is an important aspect of the accountability of donor agencies. The evaluation of a particular development effort depends on the choice of development goals, the choice of indicators used to measure goal achievement, the choice between absolute goal achievement or the overall 'value-added' of the development effort, the time period over which the evaluation is conducted, and on decisions about who should do the assessment. Once there is a consensus on the above evaluation criteria, evaluation becomes more complex the more extensive the development effort. For instance, the evaluation of a single project would be quite straightforward while the evaluation of a budget support to a recipient government would be much more complex (Pitman *et al.*, 2005). We therefore assume that the more complex it is to evaluate development efforts of a donor agency in a recipient

country, the greater the opportunities and incentives for that agency to emphasize ‘organizational imperatives’ over poverty alleviation or economic growth.

Corollary assumptions:

Various interactions between accountability, corruption and development evaluation in equation (4.1) would influence the extent to which the expected marginal product of effort on the performance measure is related to the expected marginal product of effort on both poverty reduction and ‘organizational imperatives’.

Corollary 1: If $\gamma \rightarrow 1$, then the expected marginal product of effort on the performance measure should be close or equal to the expected marginal product of effort on the organization’s objective to alleviate poverty or promote economic growth. This criterion would be met under the following conditions:

- If an aid agency with a strong accountability system provides highly corrupt recipient countries with development assistance strictly in the form of easily measurable development activities ($\theta \rightarrow 1, c \rightarrow 1, m \rightarrow 0$); such a form of development assistance would provide the agency accountable with a margin of maneuver to police and sanction aid recipients. Conversely, such an aid agency would only implement budget supports, development policy lending, or comprehensive development frameworks whose economic, political, institutional and social ramifications render evaluations complex, in highly clean recipient countries ($\theta \rightarrow 1, c \rightarrow 0, m \rightarrow 1$).²¹
- If an aid agency with a strong accountability system chooses to limit aid strictly to developing countries with good governance and very low levels of corruption and in the form of development projects and programs whose performance evaluations are easily carried out ($\theta \rightarrow 1, c \rightarrow 0, m \rightarrow 0$).²²
- Finally, if an aid agency with a limited accountability chooses to restrict its development aid to the least corrupt countries and focuses on financial and technical assistance where outputs, outcomes, and impacts are easy to identify and measure ($\theta \rightarrow 0, c \rightarrow 0, m \rightarrow 0$). In this context, low aid agency accountability would be counteracted by low levels of corruption in recipient countries and project performance assessed against easily monitorable targets and efficiency criteria.

21 Note that equation (4.1) mathematically imposes that $\theta \leq c + m$, even though accountability, corruption, and development evaluation are independent from one another. However, the expected marginal product of effort on the performance measure remains close or equal to the expected marginal product of effort on the organization’s objective to alleviate poverty or promote economic growth if ($\theta \rightarrow 1, c \rightarrow 1, m \rightarrow 0$) or ($\theta \rightarrow 1, c \rightarrow 0, m \rightarrow 1$) and $\theta > c + m$.

22 The expected marginal product of effort on the performance measure remains close or equal to the expected marginal product of effort on the organization’s objective to alleviate poverty or promote economic growth if ($\theta \rightarrow 1, c \rightarrow 0, m \rightarrow 0$) and $\theta > c + m$. Note that when $\theta = 1$, the aid agency is totally held accountable for producing positive results in reducing poverty and promoting economic growth. For efficiency reasons, it is important to increase accountability to the extent that this results in greater poverty reduction because a higher degree of accountability also involves costs (Wenar, 2006).

Corollary 2: If $\gamma \rightarrow 0$, then the expected marginal product of effort on the performance measure should be close or equal to the expected marginal product of effort on aid agency's 'organizational imperatives'. This criterion would be met when the following conditions are satisfied:

- If an aid agency with a limited accountability ($\theta \rightarrow 0$) does not discriminate against corrupt countries and provides development assistance in the form of budget supports, development policy lending, or comprehensive development frameworks whose economic, political, institutional and social ramifications render evaluations complex ($c \rightarrow 1, m \rightarrow 1$). The same is true when an aid agency with a limited accountability chooses to implement easily measurable development activities in highly corrupt countries ($c \rightarrow 1, m \rightarrow 0$) or conversely, to provide development policy lending in support of policy and institutional reforms to the least corrupt countries ($c \rightarrow 0, m \rightarrow 1$). In these three cases, aid officials are given windows of opportunities to satisfy the aid agency's organizational imperatives.

Corollary 3: For any other level of accountability and corruption and any other level of difficulty to evaluate development activities, the expected marginal product of effort on the performance measure would be equal to a linear combination of the expected marginal product of effort on poverty reduction and the expected marginal product of effort on 'organizational imperatives'. In other words, at any other level of accountability and corruption and any other level of difficulty to evaluate development activities, an aid official would work for and allocate his/her effort simultaneously to both the aid agency's mission to reduce global poverty and its 'organizational imperatives'.

Model's assumptions 2

A second important set of assumptions relates to the relationship between $V(e, \varepsilon)$, $O(e, \varepsilon)$ and $P(e, \varepsilon)$. The aid agency's total value function is defined by:

$$W(e, \varepsilon) = \alpha O(e, \varepsilon) + (1 - \alpha)V(e, \varepsilon). \tag{4.2}$$

In other words, the development agency cares about both aid effectiveness and its 'organizational imperatives'. The parameter α is the preference weight on organizational imperatives, where $0 < \alpha < 1$. All other assumptions of the Baker's model remain.

The principal's maximization problem becomes:

$$\max_{b,s} E[W(e^*, \varepsilon) - s - bP(e^*, \varepsilon)],$$

subject to the following equations:

$$E[s + bP(e, \varepsilon) - C(e)] \geq \bar{U} \tag{4.3}$$

$$bP_e(e^*, \varepsilon) = C'(e^*). \tag{4.4}$$

The model is solved in a standard way, with the principal maximizing his total value net of compensation payments subject to the participation and the incentive compatibility constraints given respectively by the two above equations. Given that the agent is assumed to be risk neutral, his utility function takes the form:

$$U = s + bP(e, \varepsilon) - C(e), \text{ where } C(e) \text{ is the disutility of effort, } C' > 0, C'' > 0.$$

In equation (4.3), \bar{U} is the agent's utility given by his outside option or his reservation utility and ε is unknown. In equation (4.4), ε is revealed to the agent and he chooses e^* given b so that his marginal benefit of effort equals his marginal cost of effort.

The solution to this maximization problem yields the following optimal incentive intensity for a risk-neutral agent:²³

$$b_1^* = \frac{\alpha E[O_e e_b^*] + (1 - \alpha) E[V_e e_b^*]}{E[P_e e_b^*]}. \quad (4.5)$$

As before, if the marginal effect of incentives on the agent's effort is not a function of ε , i.e. e_b^* does not depend on ε , e_b^* would drop out from equation (4.5) and the optimal piece rate becomes:

$$b_1^* = \frac{\alpha E[O_e] + (1 - \alpha) E[V_e]}{E[P_e]},$$

where $E[P_e] = \gamma E[V_e] + (1 - \gamma) E[O_e]$ given the assumption in equation (4.1). In this case, b_1^* would be equal to one when $\alpha + \gamma = 1$; in other words, the closer γ is to one, the smaller the preference weight attached to 'organizational imperatives'. This result implies the following proposition:

Corollary assumption:

In a bilateral or multilateral aid agency, the preference weight attached to 'organizational imperatives' is small when:

- The accountability for effectiveness is very high and attached to readily measurable development activities implemented in the least corrupt countries.
- The accountability for effectiveness is very high and attached to readily measurable development activities implemented in corrupt countries, and vice versa (negative relation between c and m).
- The accountability for effectiveness is limited but attached to readily measurable development activities implemented in the least corrupt countries.

Derivation of the optimal incentive contract

Using the second-Taylor approximation for C and P , the optimal incentive intensity becomes:

$$b_1^* = \frac{\alpha E[O_e P_e] + (1 - \alpha) E[V_e P_e]}{E[P_e^2]}. \quad (4.6)$$

23 A complete derivation of the optimal piece rate is available in the appendix.

Equation (4.6) can easily be rewritten as follows:²⁴

$$b_1^* = \frac{\alpha (\text{cov}(O_e, P_e) + E[O_e].E[P_e]) + (1 - \alpha) (\text{cov}(V_e, P_e) + E[V_e].E[P_e])}{\text{var}(P_e) + (E[P_e])^2}, \quad (4.7)$$

or

$$b_1^* = \frac{\alpha (\rho_1 \cdot \sigma_{O_e} \cdot \sigma_{P_e} + E[O_e].E[P_e]) + (1 - \alpha) (\rho_2 \cdot \sigma_{V_e} \cdot \sigma_{P_e} + E[V_e].E[P_e])}{\sigma_{P_e}^2 + (E[P_e])^2}, \quad (4.8)$$

where ρ_1 is the coefficient of correlation between O_e and P_e , and ρ_2 is the coefficient of correlation between P_e and V_e , and $E[P_e] = \gamma E[V_e] + (1 - \gamma)E[O_e]$.

As mentioned in the beginning of this section, an incentive contract is efficient, i.e. induces first-best outcomes, when the optimal incentive intensity or piece rate b^* equals to one.

Per this definition, an incentive contract would be efficient whether it achieves first-best outcomes in terms of aid effectiveness or first-best outcomes in terms of promoting aid agencies' 'organizational imperatives'. However, we are interested in an incentive contract where an aid organization's incentive structure would influence the chosen performance measure in such a way that would elicit an 'effective' effort from aid officials, i.e. a level of effort that not only would affect their reward but also contribute as much as possible to the aid agency's true mission to reduce poverty and promote economic growth (van Praag and Cools, 2001). Consequently, 'efficiency' hereafter would refer to efficiency in terms of poverty alleviation and sustainable growth.

Under the assumption that development aid agencies also face organizational imperatives that may justify the choice of a performance measure based on the amount of aid allocated within a specific period of time, the characteristics of an optimal incentive contract based on such performance evaluation and the conditions for efficient outcomes depend on the 'imperatives' of aid organizations and their degree of accountability, the level of corruption in recipient countries and how difficult it is to assess development activities.²⁵ As such, the following propositions can be derived:

Proposition 1:

If concerns about poverty alleviation and economic growth are predominant in a development agency and if there is a high level of accountability attached to readily measurable development activities implemented in the least corrupt countries, such that $\alpha \rightarrow 0$ and $\gamma \rightarrow 1$, then a first-best linear incentive contract for a risk-neutral agent is obtained when the marginal product of the agent's effort level on both the performance measure (P_e) and the aid agency's true

²⁴ A complete derivation of the optimal piece rate is available in the appendix.

²⁵ The pertinent equations for the discussion are equations (4.1) and (4.8).

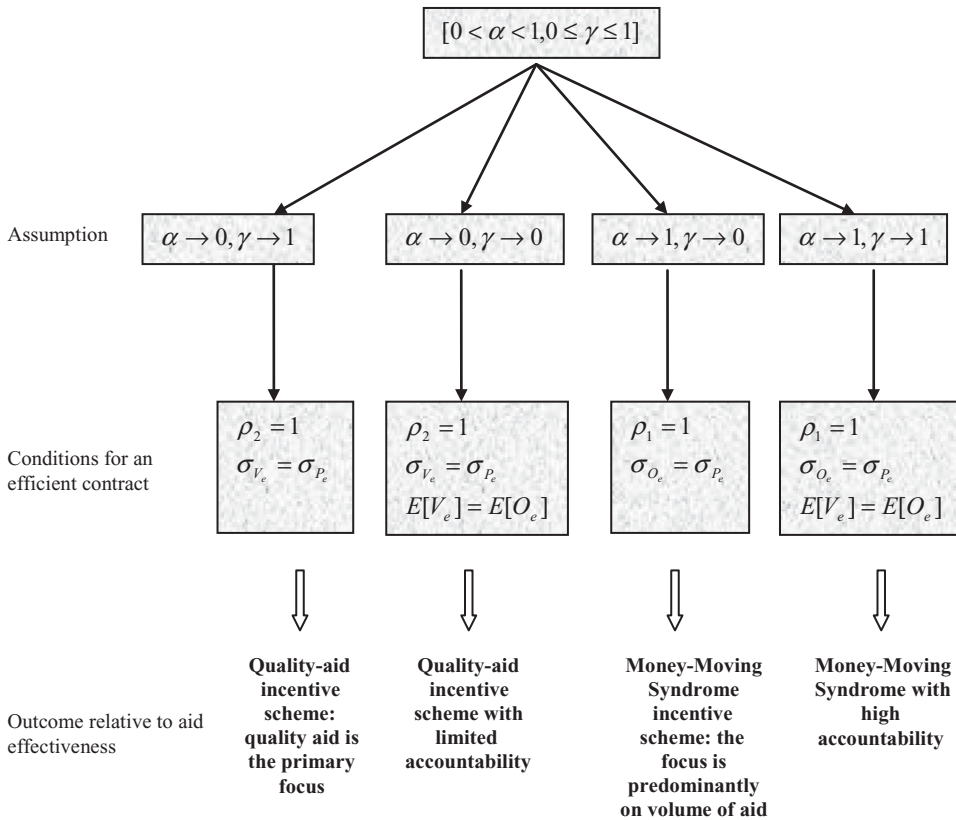
mission (V_e) have the same variance and have perfect correlation. The first-best linear incentive contract could also be obtained under the aforementioned conditions in the cases where the accountability for effectiveness is very high and attached to readily measurable development activities implemented in corrupt countries, and vice versa, or where the accountability for effectiveness is limited but attached to readily measurable development activities implemented in the least corrupt countries. In such an aid agency, the performance measure creates an incentive to direct each unit of effort/money toward its poverty alleviation mission; the staff is encouraged to choose projects and adopt policies more likely to promote development. Furthermore, if the recipient country is highly corrupt, perfect accountability would require that the agency implement development projects and program aid whose performance evaluation is easily carried out, and vice versa (negative relation between c and m). Lower levels of aid agency accountability would be offset by low levels of corruption in recipient countries and project performance assessed against easily monitorable targets. In this case, the quantity of aid disbursed factors in aid 'quality'.²⁶ This is the *Quality-Aid Incentive Scheme* (see Figure 1 below).

Proposition 2:

It could also happen that concerns about poverty alleviation and economic growth are predominant within an aid agency with limited accountability where, on the one hand, development assistance programs do not discriminate against corrupt countries and are provided in the form of development policy lending inherently difficult to evaluate. On the other hand, low aid agency accountability could also be attached to easily measurable development activities in highly corrupt countries or to development activities difficult to evaluate and implemented in least corrupt countries such that $\alpha \rightarrow 0$ and $\gamma \rightarrow 0$. In these circumstances, the expected marginal product of effort on effectiveness should be equal to the expected marginal product of effort on organizational imperatives in order to maintain the efficiency of the contract. Otherwise stated, despite strong concerns for development effectiveness, the above combination of limited accountability and levels of corruption and project performance measurability would leave room to 'organizational imperatives' however weak they may be, and thus to the possibility to 'move the money'. One solution to dampen this possibility of money-moving syndrome might be to restrict development assistance to countries with low levels of corruption and in the form of development projects and programs with higher levels of performance measurability. This is the *Quality-Aid Incentive Scheme with Limited Accountability* (see Figure 1 below).

²⁶ According to the Commitment to Development Index 2006 developed by the Centre for Global Development (CGD), 'quality' aid, among other things, excludes tied aid, subtracts debt payments by developing countries on aid loans, and favors poor and uncorrupt countries.

Figure 1. Analytical illustration of the effects of 'money moving' incentives on aid effectiveness.



Proposition 3:

If the internal ‘imperatives’ of an aid organization largely outweigh the goal of effectiveness ($\alpha \rightarrow 1$) and the levels of accountability, corruption and project performance measurability are such that the expected marginal product of effort on the performance measure equals the expected marginal product of effort level on organizational imperatives, meaning $\gamma \rightarrow 0$, then the chosen performance measure would elicit a level of effort that would contribute as much as possible to the aid agency’s organizational drive to grow if and only if the marginal product of the agent’s effort level on both the performance measure (P_e) and organizational imperatives (O_e) have the same variance and have perfect correlation. However, the incentive contract would not be efficient in terms of poverty reduction and sustainable economic growth. Each unit of effort/money would be directed towards the organization’s ‘imperatives’ to survive, to grow, achieve and/or maintain higher status or leadership position, to have greater ‘market share’ or to promote strategic interests of stakeholders or donor

countries. Therefore, the focus is predominantly on volume of aid disbursed rather than on the impact of aid disbursement on development. This situation is encountered when aid agencies with limited accountability and high preference for ‘organizational imperatives’ adopt development assistance programs that do not discriminate against corrupt countries and are provided in the form of budget support or program aid more difficult to evaluate; or when these agencies implement easily measurable development activities in highly corrupt countries and vice versa. This is the *Money-Moving Syndrome Incentive Scheme*, a state where the quantity of foreign aid committed or disbursed becomes, in itself an important objective side by side or above the effectiveness of aid (see Figure 1 below).

Proposition 4:

Finally, let us modify the previous case in such a way that the internal ‘imperatives’ are still largely predominant in the aid organization ($\alpha \rightarrow 1$), but this time $\gamma \rightarrow 1$, i.e. the levels of accountability, corruption and project performance measurability are such that the expected marginal product of effort on the performance measure equals the expected marginal product of effort level on aid effectiveness. In this case, the performance measure would still align, as closely as possible, aid officials’ levels of effort and aid agency’s ‘imperatives’ if an additional condition is taken into account: the expected marginal product of effort on organizational imperatives equals the expected marginal product of effort on effectiveness. In other words, despite a high preference for ‘organizational imperatives’, a combination of high level of accountability attached to readily measurable development activities implemented in the least corrupt countries would compel aid workers to somewhat choose projects and adopt policies that are more likely to promote development. Further pressures to emphasize ‘organizational imperatives’ over aid effectiveness would be discouraged where the accountability for effectiveness is very high and attached to readily measurable development activities implemented in corrupt countries, and vice versa, or to some extent where the accountability for effectiveness is limited but attached to readily measurable development activities implemented in the least corrupt countries. This is the *Money-Moving Syndrome Incentive Scheme with High Accountability* (see Figure 1 below).

5. Conclusion and policy implications

In this paper, we explored the extent of the role played by international donor agencies’ incentive structures, especially incentives to ‘move the money’, as a potential cause of the low performance of foreign aid in reducing poverty and promoting sustainable economic growth in developing countries. This paper is in an attempt to add one piece to the foreign aid puzzle in order to better understand

why the effectiveness of aid has not been greater despite all the resources involved in the business of aid over the years.

Theoretically, we developed a simple principal–agent model, which examined how bilateral or multilateral donor agencies' institutional incentive systems affect the characteristics of an optimal and efficient incentive contract and thus give rise to the MMS. The model adopts the basic framework developed in Baker (1992) to fit the organizational settings of international development agencies by introducing the notion of 'organizational imperatives' (such as survival, growth, achieve and/or maintain higher status or leadership position, or promote interests of stakeholders or donor countries, and so on) as an additional factor in an aid agency's total value function (other than its true mission to maximize poverty reduction and economic growth).

The theoretical model assumes that, given the difficulty to quantify the overall impact of aid, an aid agency that values its mission and is concerned about 'organizational imperatives' may choose to evaluate staff performance according to the size of budgets allocated to implement and finance development projects and programs. The extent to which this performance measure affects aid effectiveness would depend on the level of 'institutional imperatives', the degree of accountability within the aid agency, the level of corruption in recipient countries and the degree of difficulty to evaluate development activities.

The theoretical model concludes that as long as concerns about poverty alleviation and economic growth are predominant and a high level of accountability is attached to readily measurable development activities implemented in the least corrupt countries, the quantity of aid disbursed would factor in aid 'quality' ('Quality-Aid Incentive Scheme'). This is explained by the fact that the staff is given the incentive to direct each unit of effort and money toward projects and policies more likely to promote development.

On the other hand, where, for example, 'organizational imperatives' outweigh the goal of aid effectiveness and limited accountability is attached to development assistance programs that do not discriminate against corrupt countries and are provided in the form of budget support or program aid more difficult to evaluate, each unit of effort and money would be mainly directed toward promoting organizational imperatives, because the staff face the incentive to focus on the amount of money disbursed ('quantity' of aid) rather than the impact of that amount of aid on development. This occurrence is called the 'MMS'.

These results could be translated into the following policy recommendations for reducing donor agencies' institutional incentives and opportunities to 'move the money' and improving the overall performance of foreign aid.

First, in order to get the institutional incentives right, first at the source, i.e. at the stage where the funds originate with donors organizations, and then at the destination, it appears imperative to establish within aid organizations a system of checks and balances that would allow individuals involved in aid to overcome

diversionary incentives hindering their genuine intentions to help the poor. Instituting accountability for effectiveness seems to be a step in that direction. For example, one feasible solution to enforce the accountability for effectiveness within bilateral and multilateral development agencies would be to allocate a portion of aid resources directly to recipient countries (civil society or ultimate beneficiaries of aid) so that they could provide an independent feedback to donor agencies, thus creating a direct communication channel between recipients and aid agencies (Martinez-Vazquez *et al.*, 2005). Providing recipients with financial means to easily communicate their own needs and whether those needs have been met, or to question the adequacy of what donor agencies provide them, appears to be one important and feasible avenue to reduce money moving incentives within aid agencies.

Second, aid selectivity in donor agencies should be strengthened around criteria such as high levels of poverty, good governance (such as low levels of corruption, transparency, ownership and high bureaucracy quality) and sound policies. Allocating aid based on such criteria would not only reduce positive incentives to ‘move the money’ within aid agencies by targeting aid resources where they are needed the most and would likely be more effective, but also would help improve incentives in recipient countries. Undeniably, enforcing aid selectivity on such a basis would provide developing countries concerned about poverty reduction with strong incentives to establish a good governance environment with sound institutions and policies.

Finally, providing official development assistance in the form of development interventions where the overall impact on poverty or economic growth is easy to evaluate and quantify may be another approach to discourage donor agencies’ institutional incentives and opportunities to ‘move the money’. With such projects, it would be possible to tease out the influence of development projects from the influence of environmental factors and shocks, disentangle causes and effects, hold the implementing aid agency accountable, learn from mistakes and improve the focus on high ‘quality’ aid. However, considering this approach may lead to an overflow of ‘hard’ infrastructure projects in developing countries, it would be more beneficial to invest resources in built-in evaluation systems where an evaluation procedure (e.g. quantifiable performance measurements and clear evaluation criteria) is built directly into the implementation of a development project or program rather than being conducted at the end of the development activity.

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Appendix

Theoretical model-maximization problem

From Baker's model, the principal's objective is to maximize expected profits, i.e. the total value net of compensation payments:

$$\max_{b,s} E[V(e^*, \varepsilon) - s - bP(e^*, \varepsilon)],$$

s.t.

$$E[s + bP(e, \varepsilon) - C(e)] \geq \bar{U} \tag{C.1}$$

$$bP_e(e^*, \varepsilon) = C'(e^*). \tag{C.2}$$

The principal sets the fixed payment, s , to bind the agent's participation constraint. Substituting s from the participation constraint and equation (C.2) into the principal's expected profit gives:

$$\max_b E[V(e^*, \varepsilon) - \bar{U} + bP(e, \varepsilon) - C(e) - bP(e^*, \varepsilon)],$$

where e^* is function of b and ε .

Deriving this last equation with respect to b yields the following:

$$\frac{\partial E[\pi]}{\partial b} = E[V_e e_b^*] + E[P(e, \varepsilon)] - E[P(e, \varepsilon)] - bE[P_e e_b^*] = 0$$

or,

$$\frac{\partial E[\pi]}{\partial b} = E[V_e e_b^*] - bE[P_e e_b^*] = 0. \tag{C.3}$$

From equation (C.3),

$$b^* = \frac{E[V_e e_b^*]}{E[P_e e_b^*]}. \tag{C.4}$$

Differentiating equation (C.2) with respect to b gives:

$$e_b^* = \frac{P_e}{C'' - bP_{ee}}. \tag{C.5}$$

Replacing equation (C.5) into equation (C.4):

$$b^* = \frac{E[V_e \frac{P_e}{C'' - bP_{ee}}]}{E[P_e \frac{P_e}{C'' - bP_{ee}}]} = \frac{E\left[\frac{V_e P_e}{C'' - bP_{ee}}\right]}{E\left[\frac{P_e^2}{C'' - bP_{ee}}\right]} = \frac{E[V_e P_e]}{E[P_e^2]}. \tag{C.6}$$

According to the definitions of variance, covariance and coefficient of correlation,

$$\begin{aligned} Cov(V_e, P_e) &= E[V_e \cdot P_e] - E[V_e] \cdot E[P_e] \\ Var(P_e) &= E[P_e^2] - (E[P_e])^2 \\ \rho_{V_e, P_e} &= \frac{Cov(V_e, P_e)}{\sigma_{V_e} \cdot \sigma_{P_e}}. \end{aligned} \tag{C.7}$$

Assuming without loss of generality that $E[V_e] = E[P_e] = 1$, combining equations (C.6) and (C.7) yields the following optimal piece rate:

$$b^* = \frac{Cov(V_e, P_e) + 1}{var(P_e) + 1} = \frac{\rho \sigma_{V_e} \sigma_{P_e} + 1}{\sigma_{P_e}^2 + 1}.$$

Now, taking the 1992 Baker model as a basis, our goal is to extend the analysis to the case of development assistance by examining how incentive structures within international donor agencies may lead to a ‘push’ to disburse money.

The principal’s objective is to maximize expected profits, i.e. the total value net of compensation payments:

$$\max_{b,s} E[W(e^*, \varepsilon) - s - bP(e^*, \varepsilon)],$$

subject to the participation and the incentive compatibility constraints given respectively by equations (C.1) and (C.2).

As above, the principal sets the fixed payment (s) to bind the agent’s participation constraint. After substituting s from the participation constraint and equation (C.2) into the principal’s expected profit, it becomes:

$\max_b E[\alpha O(e^*, \varepsilon) + (1 - \alpha)V(e^*, \varepsilon) - \bar{U} + bP(e, \varepsilon) - C(e) - bP(e^*, \varepsilon)]$, where e^* is function of b and ε .

Deriving this last equation with respect to b yields the following:

$$\frac{\partial E[\pi]}{\partial b} = \alpha E[O_e e_b^*] + (1 - \alpha)E[V_e e_b^*] + E[P(e, \varepsilon)] - E[P(e, \varepsilon)] - bE[P_e e_b^*] = 0$$

or,

$$\frac{\partial E[\pi]}{\partial b} = \alpha E[O_e e_b^*] + (1 - \alpha)E[V_e e_b^*] - bE[P_e e_b^*] = 0. \tag{C.8}$$

From equation (C.8),

$$b_1^* = \frac{\alpha E[O_e e_b^*] + (1 - \alpha)[V_e e_b^*]}{E[P_e e_b^*]} \tag{C.9}$$

Replacing equation (C.5) into equation (C.9):

$$b_1^* = \frac{\alpha E\left[O_e \frac{P_e}{C'' - bP_{ee}}\right] + (1 - \alpha)E\left[V_e \frac{P_e}{C'' - bP_{ee}}\right]}{E\left[P_e \frac{P_e}{C'' - bP_{ee}}\right]} = \frac{\alpha E\left[\frac{O_e P_e}{C'' - bP_{ee}}\right] + (1 - \alpha)E\left[\frac{V_e P_e}{C'' - bP_{ee}}\right]}{E\left[\frac{P_e^2}{C'' - bP_{ee}}\right]}$$

Or

$$b_1^* = \frac{\alpha E[O_e P_e] + (1 - \alpha)E[V_e P_e]}{E[P_e^2]} \tag{C.10}$$

According to the definitions of variance, covariance and coefficient of correlation presented in line (C.7), equation (C.10) changes as follows:

$$b_1^* = \frac{\alpha (\text{cov}(O_e, P_e) + E[O_e].E[P_e]) + (1 - \alpha) (\text{cov}(V_e, P_e) + E[V_e].E[P_e])}{\text{var}(P_e) + (E[P_e])^2},$$

or

$$b_1^* = \frac{\alpha (\rho_1 \cdot \sigma_{O_e} \cdot \sigma_{P_e} + E[O_e].E[P_e]) + (1 - \alpha) (\rho_2 \cdot \sigma_{V_e} \cdot \sigma_{P_e} + E[V_e].E[P_e])}{\sigma_{P_e}^2 + (E[P_e])^2}, \tag{C.11}$$

where $E[P_e(e, \varepsilon)] = \gamma E[V_e(e, \varepsilon)] + (1 - \gamma)E[O_e(e, \varepsilon)]$, $\gamma = \frac{\theta}{c+m}$, and ρ_1 is the coefficient of correlation between O_e and P_e , and ρ_2 is the coefficient of correlation between P_e and V_e .