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Challenge funds in international development: definitions, variations and research directions

James Copestake and Anne-Marie O'Riordan. October 2014.

Summary

The use of challenge funds to promote economic and social development continues to grow, but has been the subject of relatively little research. This article draws on institutional economics (particularly principal-agent theory) to define challenge funds and review how they differ from other development funding mechanisms, taking into account their purpose, financial terms, inter-agency relationships, screening processes, selection mechanisms, implementation and risk sharing characteristics. It then draws on web based data for fifty challenge funds to analyse variation in some of these characteristics. The paper identifies evaluability as an important influence, including the relative importance attached to promoting the financial performance of grantees relative to the indirect social benefits of their activities. We conclude with suggestions for further research into the design and performance of challenge funds.

1. Introduction

Challenge funds (CFs) are an increasingly prominent aid modality, favoured particularly by the UK Department for International Development (DFID) but also used by many other agencies as a means to promote poverty reduction through support for both for-profit and non-profit organisations. Their adoption by DFID can be traced back to the "reinventing government" policy agenda of the 1979-90 Thatcher governments, and their use particularly for urban regeneration (Foley, 1999; John and Ward, 2005:73; Brownhill, 2007). The Joint Funding Scheme for

providing matching funds to UK development NGOs was also established in this period, and by 1992/93 is was allocating £28 million a year to more than 1,000 projects (Gibson, 1993:184). The first business oriented or enterprise CF within the British aid programme was the UK Business Sector Challenge Fund, launched in 1997/98. This was followed by the Financial Deepening Challenge Fund and the Business Linkages Challenge Fund in 2000. A web search in July 2013 identified more than fifty live or recently closed challenge funds being operated by development agencies, with a combined portfolio of grants worth more than £1 billion. Of these 39 were being operated solely or jointly by DFID (see Appendix). The rise of CFs in international development can be linked to debate over how far the sheer complexity of many development problems undermines attempts to address them through hierarchically coordinated 'grand plans' and blue-prints (e.g. Easterly 2006; Mowles, 2010; Ramalingam, 2013) and can better be addressed by more decentralised, flexible and adaptive 'quasi-market' approaches. Yet, surprisingly the use of CFs to promote international development has been the subject of relatively little research. Poulton and Macartney (2012) are one exception. They discuss CFs alongside other forms of public-private partnership to stimulate investment in agricultural value chains in Africa. Following Hart and Holmstrom (1987) they adopt a principal-agency framework that distinguishes between the principal's information deficit relative to possible agents with respect to (i) their capability and motivation, (ii) behaviour once in receipt of funding, or (iii) greater knowledge of contextual contingencies affecting performance. CFs set up a tournament through which agents have to reveal their thinking about how they could promote stated goals in specific contexts. By assessing the quality of this thinking the fund provider can assess the range, quality and motivation of potential agents,

and at least partly address the risk of adverse selection. Bids also provide information that can be used to assess goal congruence with potential agents, and to design appropriate contracts and monitoring systems to mitigate moral hazard problems (Waterman and Meier, 1998). At the same time, CFs are a cost sharing mechanism through which the funder can influence the incentive of bidders to undertake more risky activities than they otherwise would. In this respect, they resemble sharecropping contracts whose design has also been explained by the need to balance risk sharing with transaction cost minimisation considerations in the presence of information asymmetry (Stiglitz, 1974). In both cases, principal-agency theory suggests a possible spectrum between more 'hands-on' and higher transaction cost designs (with less delegation of autonomy and risk) at one end of the spectrum, and lighter touch designs (with greater risk sharing) at the other. As with sharecropping, there are strong *a priori* grounds for anticipating heterogeneity and complexity in the design of CFs, hence a case for ensuring that theorising about them is complemented by more naturalistic enquiry into how they have evolved in practice.

This article first contributes towards a more rigorous definition of challenge funds by clarifying how they differ from other development funding mechanisms. It then draws on a database of fifty challenge funds to review variation in the way they are designed and managed. It concludes with suggestions for further research to augment the limited publicly available evidence to inform design and use of challenge funds as an aid modality.

2. What is a challenge fund?

Foley (1999) draws on the 1996 HM Treasury Challenge Handbook to suggest that

challenge funds have seven essential features: public competition, scarcity of funds, performance related payment, implementation by the bidder, partnership, innovation and private sector participation. Not all these characteristics are referred to in more recent definitions. For example, the International Labour Organisation (ILO) defines challenge funds as "open financing mechanisms that allocate grant funding through a competitive process… to meet specific objectives" (Co-op Africa, 2010:2). The Swedish International Development Agency (2013) emphasises their role in allocating donor money for specific purposes in a predefined field. Problem-solving, risk sharing and innovation are also widely cited as important, though often by authors who identify challenge funds exclusively with private sector development (e.g. Armstrong *et al.,*2011:5; Gulrajani, 2013:3; Heinrich, 2013:6; KPMG, 2012:1).

To arrive at a definition for this paper, we draw on the core idea of a *challenge*: that one agency defines a goal but invites others to achieve it. We also link it to core features of any financing instrument: that it entails the transfer of resources from one party to another, for specified purposes, subject to rules or norms governing screening, monitoring and enforcement, in line with an explicit or implicit contract. These elements led us to the following seven point definition: a *challenge fund (1) provides grants or subsidies (2) between legally independent agencies (3) with an explicit public purpose defined by the grant provider (4) on the basis of publicly advertised rules and procedures, where (5) grant recipients are selected competitively and (6) retain significant discretion over formulation and execution of their proposals (7) but share risks with the grant provider.*

A test of the robustness of this definition is whether it establishes a clear distinction between challenge funds and other common terms used to specify development financing mechanisms. Table 1 summarises our exploration of this

issue. It suggests, first, that open research grants share all the characteristics of challenge funds set out above, differing only in their public purpose. In particular, they are similarly open-ended with respect to the mechanism linking goal achievement to disbursement of money. Information asymmetry between funder and fund recipient is also integral to both: if this were not the case then the grant giver could either carry out the activity directly itself, or could outsource it to another agency through a contract that specified activities and performance targets more tightly, thereby also transferring much more of the risk of performance shortfalls.[1]

Use of the term 'managed fund' generally suggests a more fluid portfolio of funding agreements set up through a less open and public process than is the case with CFs . The terms also imply that the funder retains greater control. One possible rationale for this is that discrete projects cannot be appraised in isolation from each other, but need instead to be assessed as complementary elements of a joined-up strategy for achieving systemic change. Examples include funds to support linked technical and institutional innovation in specified sub-sectors, value-chains and geographical corridors, including those that take a systemic approach to "making markets work for the poor" (e.g. Boomgard *et al.*, 1992; M4P, 2008). Interdependence also underpins integrated or sector-wide programmes of investment and policy reform, including those that seek to mobilise demand for services from marginalised groups as well as to improve their supply (e.g. DFID, 2005). Managed investment funds have also been widely used in the health sector to promote research in neglected fields, including anti-malarial drugs and HIV/AIDS.

[1] As with challenge funds, and despite extensive informal discussion among academics, scholarly research into competitive research fund allocation is surprisingly thin. One exception is their use to finance agricultural research. For example, cross-section evidence from the USA suggests that competitive grant allocation between States does not lead to more innovation (measured by relative State-level crop yields) than grant allocation based on more stable and predictable needs-based formulae (Huffman and Evenson, 2006).

Poulton and Macartney (2012:103) suggest that such funds mature slowly because managers take time to acquire relevant expertise, networks and trust.[2]

The public purpose of 'prize funds' is less clear, as these can also serve as a corporate public relations tool, for example. They also primarily reward past performance of the recipient (who may not even have to bid) and suggest weaker expectations about how funds will be spent and for what purpose. Nevertheless prize fellowships, such as offered by the Ashoka Foundation or the Stars Foundation, bear strong similarities to the challenge fund model. 'Technical assistance projects' not only restrict use of grants or subsidies to in-kind services, but resemble managed funds in being more proactively and less transparently controlled by the funding agency. The other mechanisms listed in Table 1 unambiguously differ from challenge funds with respect to at least one characteristic. Advanced market commitments and social impact bonds explicitly seek contractually to transfer risk between agencies (from and to the private sector, respectively), rather than to share risk and uncertainty between them. 'Social impact investment' generally entails pro-active placement of funds rather than open and competitive selection processes. This is often the case with public investment which also takes place within hierarchical government structures allowing tighter control over implementation. Lastly, venture capital funds are more narrowly commercial in orientation, and public procurement focuses on minimising cost and uncertainty over sub-contracts that are more fully specified. Overall, this brief discussion supports the idea that there is a useful distinction to be drawn between challenge funds (embracing competitive research funding mechanisms) and other financing mechanisms.

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[2] The terms global fund (e.g. Isenman *et al.* 2010) and social fund (Mallet and Slater, 2013) are omitted from the list because their use is even vaguer: encompassing both managed funds and challenge funds as defined above, for example.

[Insert Table 1 here]

3. Variation in the characteristics of challenge funds

The empirical component of this paper is based on data for fifty challenge funds operating broadly within the field of international development. . These were identified through key informant interviews combined with a review of secondary literature and an internet search that included the websites of official aid agencies affiliated to the OECD Development Assistance Committee.[3] The 65 funds initially identified were then screened against the definition of a challenge fund presented above, along with three additional criteria: that the fund had been in operation during or since 2010; that sufficient data was available about it; and that the source and use of funds wasnot restricted to a single country. We cannot claim the resulting sample of fifty is definitive - the search having been restricted to English language websites, for example. But it does nevertheless provide a useful starting point for analysing variation in CF characteristics.[4]

The original research plan was to explore variation in selected CFs using cluster analysis, but this proved impossible due to the lack of more comprehensive data about fund specific variation in the seven characteristics of funds identified

[3] The key informant interviews were undertaken with staff of Triple Line Consulting, a UK based consulting firm specialised in challenge fund management in the field of international development.

[4] For example, our list excludes single country social funds intended for post-conflict reconstruction (such as discussed by Mallet and Slater, 2013). It also excludes academic research funds despite the fact some of them – particularly for agricultural and health - do meet all the characteristics of challenge funds identified above and can also be linked to international development goals (Poulton and Macartney, 2012:102-104). The language restriction excluded, for example, funds managed by the Omidyar Network in Spanish and Portuguese speaking countries.

above and elaborated upon in Table 2. Instead, variation in CFs (including the prevalence of hands-on versus light touch designs) is analysed by following an *a priori* distinction between two broad types of fund.The term enterprise challenge fund (ECF) refers to funds oriented towards business promotion and making markets work better for poor people. Social and civil society challenge funds (SCFs for short) contribute primarily to pursuit of wider social, economic and civic goals including promoting human rights, public sector accountability and poverty reduction. In contrast to ECFs, the case for funding rests solely on the impact on intended beneficiaries, without its effect on fund recipients themselves also being expected to pass a strict business test. Funds that could not be unambiguously classified in either group were allocated to an intermediate or hybrid category.

[Insert Table 2 here]

Our key informants linked the distinction between ECFs and SCFs with separate arenas of development activity and discourse: of private sector development, the market and economic growth for ECFs; and of social development, needs, rights, governance and justice through civil society and public action for SCFs. However, it also reflects a structural difference in theories of change and the criteria by which fund performance is assessed (Copestake, 2013). This hinges on whether the primary goal of successful grantees is to secure a financial return from their customers/clients, or to provide funds or services to them regardless of financial return.[5] In both cases the ultimate public goal is to benefit one or more categories of final end users, whether as customers, clients, workers, members, beneficiaries or

[5] This in turn has important implications for the nature of performance feedback loops to intended beneficiaries: the repeat business or “exit” loop being stronger for ECFs; and the political accountability or “voice” loop being stronger for SCFs (Hirschman, 1970).

citizens. But in the case of ECFs an important intermediate performance indicator is the financial self-sustainability of the grant recipient. Grants are also expected to pass a development test, often linked to overcoming market failures or providing public goods, but passing this test is in itself not sufficient. In contrast, while SCFs do also take value-for-money, cost-effectiveness and capacity building into account, they focus less on how funds contribute to the grant recipient's own financial self-sustainability, placing a stronger emphasis on the social, economic and political impact of the services provided.

Variation in scope, purpose and agency involvement.

Table 3 provides summary information on the scope, purpose and agency involvement of the fifty selected challenge funds. 21 were classified as ECFs, 23 as SCFs and six as hybrids. Further details of each can be found in the Appendix. The challenge funds identified operate at global, regional and national levels, with ECFs more likely to be regional or national, and SCFs more likely to be global or regional in scope. Two-thirds are partly or fully funded by DFID, and half are supported by more than one donor. A leading example of a single donor SCF is DFID's Civil Society Challenge Fund (CSCF). This has financed UK based NGOs and their civil society partners in southern countries globally since 2000. It aims to reduce poverty and promote voice, inclusion and critical services for poor people and marginalised and vulnerable groups globally, but particularly in challenging environments (CSCF, 2013:9). A leading example of a multiple donor ECF is the Africa Enterprise Challenge Fund (AECF). To date this has provided £130.6 million to support private sector businesses in Africa with interest free loans and grants intended to innovative,

commercially viable, high impact projects in the areas of agribusiness, finance, renewable energy and adaptation to climate change (AECF, 2013; AECF, 2013b:8).

[Insert Table 3 here]

As expected, ECFs are targeted more at for profit enterprises and SCFs at NGOs. An example of a hybrid fund is the joint USAID-DFID Development Innovation Ventures (DIV) fund, which is open to international NGOs, entrepreneurs, public-private partnerships and academic research teams. This fund has a broad remit to “tap into promising solutions to core development challenges, from anyone, anywhere” (DIV, 2013), and like many funds it also specifies more than one target activity. This mirrors the wide range of stated goals across the fifty challenge funds: with only three mentioned by more than twenty percent of them: enterprise promotion (34%), poverty reduction (26%) and improved governance (22%).

Some challenge funds are also restricted to a single country. For example, SIDA’s *Emprender Paz* challenge fund aims to encourage private businesses in Colombia to link profit-making with “peace-building initiatives” (SIDA, 2013), while *Shiree* (the DFID Economic Empowerment of the Poorest Programme) aims to help Bangladesh achieve the first Millennium Development Goal (MDG) of eradicating of extreme poverty and hunger by 2015 (Shiree 2013). DFID is also a strong supporter of regional funds that encourage cross-country linkages. For example the Agricultural Technology Transfer Research Challenge Fund (Agri-TT) facilitates links between developing countries and China to accelerate agricultural technology transfer (Agri-TT, 2013).

Variation in fund terms

Data on the value of funds supplied is patchy, but the typical fund has an overall value of around £40 million, with ECFs generally being typically half this size, and SCFs slightly larger (see Table 4).[6] The smallest fund in the sample is the Business Sector Advocacy Challenge Fund, worth just under £2 million. This aims to "contribute to the creation of a more enabling business environment for development and growth of the … private sector" in Ghana (BUSAC, 2012). The largest fund in the sample is the DFID-funded Global Poverty Action Fund (GPAF) with total funds available of nearly £150 million. This aims to "support projects that focus on poverty reduction and contribute towards the achievement of the Millennium Development Goals" (Government of the United Kingdom, 2013:1).

[Insert Table 4 here]

The tendency for SCFs to be larger is reflected in higher minimum and maximum grant sizes, along with typical grant funding periods of just under three years compared to just over two years for ECFs. The shortest grant period is three months, for the GSMA mWomen Innovation Fund for mobile network operators (GSMA mWomen, 2013:10). At the other extreme the DFID Human Development Innovation Fund for Tanzania, offers project funding for up to four and a half years (DFID, 2013:3).

The average size of a grant or subsidy across the full sample was £155,000, with the largest available being £6.4 million (US$10 million) from the ClimDev Special Fund (Climate Finance Options 2013). On the assumption that typical grant

[6] Data on average grant size was found for only seven of the funds, the mean figure across them being £207,582.

size was equidistant between these maxima and minima it can be estimated that the typical ECF had 37 grantees, whereas the typical SCF had 38. There is scope for further research into this topic in order to cast light on whether challenge funds of different types may be subject to economies and diseconomies scale, arising from the tension between spreading fixed management costs and retaining specialised focus, for example.

Table 5 indicates that SCFs are more likely to provide full grants, and ECFs only partial funding of proposed activities (Government of the United Kingdom, 2013b). Matching within ECFs is most often 50%, but this can be flexible. For example, the Food Retail Industry Challenge Fund (FRICH) expects grantees to cover at least half project costs (Ceres, 2013), whereas the Afghanistan Business Innovation Fund assesses the value of the grant required to generate sufficent return on the applicant's investment (Imurabba, 2013; ITAD, 2013).

Variation in screening and selection.

As a form of business subsidy, challenge funds are susceptible to the adverse selection problem of attracting opportunistic bids from organisations unable to secure funding from other sources, adding to the importance of robust screening and management mechanisms. A majority of funds (62%) are operated through a contracted fund manager, whose core responsibilities generally include project screening, financial monitoring and risk management. Under the Global Poverty Action and Civil Society Challenge funds, for example, DFID (the funder) is responsible for fund design, policy direction and overall decision making, while the fund manager has an advisory role and executes decisions taken by DFID (covering funding mechanisms, financial and programme management, transparency and

accountability, reporting on impact and learning) while grant holders remain formally accountable to DFID. Fund management may also be combined with responsibility for monitoring and evaluation of fund use, but in at least 15 cases this was contracted to a separate organisation.[7]

Most fund managers are private for-profit firms, appointed through competitive tendering processes.[8] The contractual role ascribed to them by donors can be viewed as varying across a spectrum. A relatively light touch approach entails little or no involvement in implementation of funded activities. More hands-on fund management, in contrast, entails them being required to exert considerable influence on projects, including through direct involvement in the performance management systems of recipients and associated capacity building. Over the course of the last decade, DFID has tended to encourage a more hands-on approach to fund management, and gone some way towards elaborating explicit 'theories of change' for this role (e.g. Triple Line Consulting & Crown Agents 2012).

Challenge fund websites hosted by donors do not generally supply information about application and acceptance rates. Nor do they detail advertising and management costs relative to the value of funds disbursed.[9] But most do provide qualitative information about how grantees are screened and recruited. Marketing mechanisms associated with challenge funds include print advertising, radio, websites, e-mail circulation to relevant networks and lists applicants from previous funding rounds, and pre-launch workshops. This raises the issue of trade-

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[7] The 15 comprised 7 ECFs, 6 SCFs and 2 hybrids. 16 websites indicated M&E was contracted to the fund manager and 19 did not indicate who was responsible.

[8] The Independent Commission for Aid Impact (2013) reports that private sector contractors accounted for 9% of DFID total expenditure in 2011/12, but does not indicate what proportion of this was channelled to and through challenge funds.

[9] Although some data is published about how challenge funds are used, in part as a response the International Aid Transparency Initiative (Development Initiatives, 2012; Tierney *et al.,* 2012). For example, the Civil Society Challenge Fund and Global Poverty Action Fund are both bound by IATI guidelines.

offs between minimising expenditure, achieving a fair coverage of potentially eligible groups, and generating sufficient quantity and quality of bids. While some indirect benefits may arise from unsuccessful bid preparation net benefits to bidders, fund managers, donors and the wider public clearly diverge considerably. For example, restricting advertising or selection to previous winners reduces overall selection costs, but to the potential detriment of equity of opportunity and originality of proposals.[10] Nor can it be assumed that overall value-for-money is the over-riding consideration for selecting challenge funds over other funding mechanisms given that they may also be a useful way for donors to achieve other goals, including rapid fund disbursement. Another possible benefit is to reduce direct donor overhead costs by passing them down the aid chain to bidders, but the apparent value-for-money of a challenge fund may also be improved by hiding costs up the chain. Challenge funds can also be viewed as a means to strengthen public-private partnership on ideological grounds, to leverage private funding to offset public funding shortfalls, and to diversify donor partners and funding routes away from host governments in areas of conflict (e.g. see Mallet and Slater, 2013).

Many challenge funds manage the application process in two stages, with a light touch expression of interest stage, followed by full submission. For example, the DFID-funded Tanzania Zonal Innovation Fund issues a first call for concept notes from which it compiles a short-list of potential grant holders (Economic Development Initiatives Ltd., 2009:2).[11] The donor may provide funding and/or technical support for

[10]Cunningham *et al.* (2012:6) highlights the danger of this "halo" effect in the case of subsidies for business R&D, while Poulton and Macartney (2012:103) also suggest that "without active and on-going efforts to market a fund it runs the danger of servicing a small number of private actors, whose motives for engagement could readily slip from help for innovation to rent-seeking."

[11] Other examples, include the Shell Springboard innovation prize (Shell Springboard, 2013), the Children and Violence Evaluation Challenge Fund (The Children and Violence

one or both of these stages – GPAF being an example. The USAID “Powering Agriculture: An Energy Grand Challenge for Development Fund” provides seed funding for preparation and submission of shortlisted proposals (Federal Business Opportunities, 2013). Additional variation arises from the involvement of independent assessors, donors and fund managers in screening, as well as the use of light touch windows for augmenting funding to existing grantees (DIV being an example).

Implementation, risk sharing and evaluation.

The issue of choosing the right balance between a light touch and a hands-on approach to challenge fund management persists once projects have been approved. The highest levels of monitoring and supervision are likely to be associated with the classic principal-agent scenario where both goal congruence between funders and grant recipients is low, and the extent of information asymmetry between them with respect to factors contributing to project outcomes is high (Waterman and Meier, 1998). In contrast, where goals and relevant knowledge are better aligned challenge funds relations can operate with a lighter touch that relies more on co-production, partnership and collective action (Booth, 2012). Possible pay-offs to devolving autonomy over implementation to grantees arise not only from tapping local knowledge and specialist expertise of grantees, but also through synergy with their other activities, and piggy-backing on their established governance and accountability mechanisms. The reputational consequences of success or failure of a project may also be greater for staff in a relatively small grant receiving agency than it would be within a larger donor bureaucracy. Challenge funds also have the additional political advantage for donors of distancing them from

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Evaluation Challenge Fund, 2013), Innovations Against Poverty (SIDA, 2012), and the Ashen International Award (Ashen, 2013).

risky or sensitive activities, at least to the extent that grantees are more locally owned and accepted. At the same time, grantees can benefit politically as well as financially from the external funding link.[12]

What is clear from even this brief discussion is that the issue of cost-effective management of challenge fund projects cannot be separated from questions of risk sharing. Nearly all challenge funds invite applicants to be innovative in project design. The justification for ECFs also includes reference to insurance market failures, and this argument also applies to SCFs to the extent that public sector providers of welfare services may be deterred from innovating by fear of the reputational consequences of failure. While rarely explicitly stated, some willingness on the part of the donor to share the risks of project failure is integral to challenge funds, and to the lengths donors are willing to go to recover funds from any project that fails to achieve its full stated purpose. Challenge funds also reflect tacit understanding that the outcomes of development activities are often unavoidably uncertain, particularly in complex, unstable and highly diverse contexts.[13] This is an important counter to the tendency to view aid in purely hydraulic terms, with predetermined theories of change linking final impact (or 'outcome' additionality) to the relaxation of capital constraints and other forms of 'input' additionality.[14]

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[12] See Booth (2013) for a discussion of the advantages of "arms-length" approaches to aid, and Collier (2013) for an exploration of aid for public private partnerships as a means to promote "pioneer investment". Host governments are of course also wise to this approach, and can respond by imposing strict limits on the external funding local organisations can receive and how it is spent.

[13] For more general discussion of this point see Hirschman (1967), Easterly (2006), Rigg (2012), and Natsios (2012), whose powerful critique of USAID audit culture leads to the thesis that development impact is inversely proportional to efforts made to measure and control it.

[14] This in turn explains the full significance of the subsidy rate. Cunningham *et al.* (2012:6), for example, suggest that for business R&D subsidies the substitution effects (i.e. lower input additionality and crowding out) fall sharply when it exceeds 20% of their total investment. They also make a useful distinction between direct outcome and indirect "behavioural" additionality arising, the latter arising from changes in institutions and attitudes.

Different challenge funds do signal varying risk appetites. The GPAF, for example, clearly states that it “balances higher risk for higher rewards from innovative work and lower risk for work to deliver tried and tested approaches” for both its Community Partnership and Impact windows (Government of the United Kingdom, 2013), while the CSCF which closed to new grants in 2011 aspired to fund “innovative service delivery in challenging environments”. Both AECF and the Afghan Business Innovation Fund also explicitly welcome bids based on riskier business models (Imurabba, 2013b; AECF, 2012:9). However, no fund, to our knowledge, offers precise guidelines or benchmarks for what amount of project failure is acceptable, or more importantly, what level of project success is acceptable and how best to measure it, particularly for previously untested projects and ideas (Elliot, 2012; Cunningham *et al.*, 2012:6).

To the extent that the architects of challenge funds are indeed informed by a laudable appreciation of uncertainty and the importance of risk sharing, then there is a potential moral hazard problem that grantees may forego taking sensible measures to mitigate the risk of project failure in the knowledge that these are less likely to be punished. This helps to explain why an emphasis on grantee autonomy and innovation is not at all inconsistent with a strong emphasis on compliance with guidelines for monitoring and evaluation of project activities, including reporting on financial expenditure, results and lesson learning. A more positive point leading to the same conclusion is that effective learning and dissemination is particularly necessary and important for new and innovative activities seeking new ways of achieving difficult goals. Demand for strong evaluation also originates from the political requirement to account for the use of public money, particularly when

transferred to private companies and in the context of public spending cuts.[15] There is likely to be scope for simplifying and standardising guidelines, contracts and compliance mechanisms for monitoring and evaluating challenge funds, to reduce fragmentation and duplication of effort arising from donor and fund specific requirements and idiosyncrasies.

One dimension of this variation is again between light-touch and hands-on fund management. In addition, there is variation in how far challenge funds impose their own self-contained monitoring and reporting mechanisms or can rely on those that grantees already have in place for reporting to others. An example of the former is the Tanzania Zonal Innovation Fund, where receipt of funds was conditional on grantees completing grant management training on reporting requirements, financial control and overall fund dispersal procedures (Economic Development Initiatives Ltd., 2009). The ClimDev Special Fund explicitly seeks harmonization with the grantees' own reporting mechanisms, and those of independent "implementing agencies" (African Development Bank, 2009:11). More generally, challenge funds tend to reflect the results-based management culture of their sponsoring donors: complete with theories of change, logical frameworks, quality assurance, auditing processes and impact evaluation requirements. Consolidation or pooling of funds between donors is also one route to procedural harmonization in pursuit of aid effectiveness.

It is beyond the scope of this paper to enter into a more detailed review of monitoring, evaluation and learning systems, but one specific point worth highlighting

[15] Martens (2002) provides a formal model to explain why funding for aid evaluation is likely to be sub-optimal. However, this pessimistic view is not wholly borne out by more recent evidence. In the UK, the work of the International Development Select Committee is particularly important, to which the Independent Commission for Aid Impact reports. More official resources are also going to independent bodies like 3ie, adding to substantial aid accountability activities of media, lobby groups, think tanks, NGOs and universities.

is the relationship between challenge fund evaluation at the individual project level and evaluation at the overall fund level. At one extreme there need be no expectation of synergy between projects, the rationale for a challenge fund resting instead on specialisation and cost-effectiveness in supply of funding, including scope for cost saving in monitoring, auditing and sample evaluation. At the other extreme, systemic impact may be critically important to the public purpose of the challenge fund, with important implications for the way it is evaluated (Kessler, 2013). In the case of value-chain specific ECFs, for example, possible systemic effects include market leadership, championing of innovation, imitation, forward and backward linkages, and support for collective action, including better regulation.[16]

This discussion also raises the question of who should take responsibility for impact evaluation at both project and fund levels. In the case of ECFs there is a consensus that private for-profit firms lack both incentives and skills to assess the development impact of projects (as opposed to their contribution to business sustainability), and should not be required to take responsibility for this (Kessler, 2013; Collier, 2013). In contrast, non-profit development NGOs have a stronger interest in monitoring and evaluating the social impact of their work, but their ability to do so with sufficient objectivity, scope, scale and time span is more doubtful. The issue of systemic and fund-wide evaluation of challenge funds also relates back to the issue of risk, with scope to compare *ex ante* risk appetite with *ex post* outcomes across the project portfolio for each funding round. An unstated issue here is how far donors are willing to accept project failures (in terms of impact if not compliance with use of funds) as an acceptable price for backing a few spectacular winners – an

[16] Johnson and Boulton (2013) provide an innovative example of an impact evaluation that employs ideas from 'complexity theory' to explore systemic effects of Kenyan Financial Sector Deepening Trust.

example being early and timely support of M-PESA from the Financial Sector Deepening Fund. This also touches on the question of how far challenge funds can and should be interlinked with hands-on managerial and technical assistance at the definitional boundary with managed funds.

4. Analysis and conclusions

This article has documented wide use of challenge funds in development practice, particularly by the UK Department of International Development. It has offered a seven point definition of what challenge funds are and how they differ from other development funding mechanisms. Drawing on web-based information for fifty funds it has also reviewed variation in challenge fund design with respect to scope, grantee/project eligibility, proposal screening, competition, financial terms, and division of labour in implementation and in risk sharing. This discussion distinguished between enterprise challenge funds (ECFs) oriented towards business development, and social and civil society challenge funds (SCFs) oriented more towards social development, direct poverty alleviation and public service delivery. This distinction reflection differences in the principal-agency relationship typical of each sector. The main goals of ECFs, principally small business promotion and employment creation, are both relatively easy to measure and shared between funder and grantee. This means that evaluating fund impact, or additionality, can draw heavily on performance data collected by fund recipients for their own purposes, and this in turn allows for a more hands-off approach to monitoring and influencing grant use and impact evaluation by the funder. In the extreme case, it may be possible to forego monitoring completely, on the basis that (a) competitive selection is a sufficient mechanism for selecting the best grantees and (b) what is good for the successful

recipients is also good for the funder (Blattman et al., 2013, documents a good example).

At the other extreme is the case where limited goal congruence between funders and recipients means that more hands-on monitoring and evaluation is required no matter how competitive and rigorous the goal selection process. This is generally the case for SCFs, for which the business or capacity building effect of grant on recipients is of secondary importance relative to the impact of their activities on poor people and other primary intended beneficiaries. These intended outcomes are not only distinct from the corporate goals of grantees, but also often harder to measure and to attribute to additional funding. Davis and Elgar (2014) point out that this is indeed also the case for ECFs where their purpose is to influence the behaviour of larger and more established business recipients of grants, rather than to augment the capacity of newer and smaller businesses to grow and create jobs directly.

This distinction illustrates the general point that striking an appropriate balance of power and responsibility between fund providers (including their appointed fund managers) and grant recipients depends critically on the extent to which grantee goals are transparent and congruent with those of the funder. If screening and selection can clearly establish this, then fewer resources need to be invested in monitoring and evaluation. Conversely, where goals are less congruent and/or less evaluable (DFID, 2013), then the cost-effectiveness of challenge funds is weakened by the potential requirements for reporting to ensure compliance with original proposals. In this case the value-for-money of challenge funds depends not only on selecting the best proposals but also those already subject to strong accountability mechanisms. In other words, challenge funds that seek to use

grantees rather than to empower them (i.e. in the absence of goal congruence) are most likely to be cost-effective if grantees are already strongly accountable to other stakeholders who share the same goals as the funders. These may include NGO trustees, charity supporters, members, customers and other donor agencies. In other words, challenge funds can be viewed as a mechanism for leveraging underutilised governance capacity (cf. Williamson, 2002)

This article raises numerous questions for further research. First, publicly available evidence on the impact of challenge fund grants is fragmented and in short supply. It is not uncommon for grant recipients to be required to conduct evaluations, but the quality of these studies is highly variable particularly when it comes to addressing attribution problems in assessment of impact. Estimates of the combined effects of all grants provided by a challenge fund, including indirect and systemic effects, is particularly scarce, making it hard to assess evidence of celebrated successes (such as M-Pesa in Kenya or WING in Cambodia) relative to overall spending across the funds that supported them (Davies and Elgar, 2014). Some progress in expanding the quality of monitoring and impact evaluation is being made at the sector level through establishment of stronger standards: by the Donor Consortium for Enterprise Development for private sector development, for example (DCED, 2014). This should in time permit more comparative analysis both between ECFs and between them and other private sector funding modalities, including social venture capital funds.[17]

[17] In this respect DCED can be viewed as doing for private sector development what CGAP and MIX market did for microfinance. CGAP has championed standards for public and private investors in microfinance while the MIX market (www.mixmarket.org) provides instant access to financial and social performance information covering approximately 2,000 MFIs around the world.

Second, where evidence of impact is not available there may still be scope for quantitative research into determinants of the quality of investments made by CFs by relying on the subjective scoring systems used by fund managers as part of routine CF results monitoring. To the extent that these are standardised (e.g. across DFID funds) then these may permit comparative analysis of economies of scale and scope in CF management. Key parameters, such as the ratio of fund applications to awards (by number and value) need to be more widely available, for example, in order to assess how far different CFs are successful in promoting competition and to what effect. Such research could also be complemented by more systematic interview based research into how funders, fund managers and grantees perceive trade-offs between portfolio quality, risk, grant terms and effort incurred in selection, monitoring and evaluation. Qualitative research, based on stakeholder perceptions, is likely particularly needed for social and civil society challenge funds that aim at more diverse and often hard-to-measure goals, such as promoting human rights.

Third, a useful complement to empirical work of the kind described above would be more theoretical exploration of the synergies and trade-offs entailed in designing challenge funds, subject to variation in transparency of goals and values between funders and grant recipients, and evaluability of intended outcomes. In particular, it would be useful to explore optimal CF design models with respect to light touch versus more hands on models of investment in selection and post-grant monitoring. Rational choice institutional analysis of this kind need not be limited to identifying socially optimum CF designs. For example, while Martens (2002) explore the logic behind systematic under-investment in evaluation by politicians and intermediaries seeking to protect their discretion, there is also scope for modelling

risk averse over-investment in results management (to the detriment of programme outcomes) described by Natsios (2010) as “obsessive measurement disorder”.

Fourth, there is also scope for more open-ended and exploratory research into the operation of challenge funds that goes beyond rational choice assumptions by critically exploring the mental models adopted by different stakeholders confronting the complexity and uncertainty of development practice. Challenge funds are potentially consistent with an experiment-and-learn approach to development, also described as “problem oriented iterative adaptation” (Andrews et al., 2012). But clearly, this potential can easily be undermined if the rules and results management systems regulating their operation are too heavy and cumbersome. Institutional and transaction cost economics offer particularly important theoretical insights to inform this research agenda (e.g. Martens, 2002; Poulton and Macartney, 2012). However, it is important that research into challenge fund structure, conduct, performance and evolution should be informed by multi-disciplinary perspectives that take into account political and social dimensions of the way they operate. More broadly, they are a leading example of bespoke public and private sector interaction combining markets, hierarchies and networks. Understanding these evolving relationships is part of a wider agenda of research into the evolution of the “post-Washington consensus” global development architecture (Gore, 2013).

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Table 1. Distinguishing challenge funds from other financing mechanisms.

	1. Grant or subsidy element	2. Explicit public purpose	3. Inter-agency contract	4. Com-petitive selection	5. Open selection process	6. Autonomy in imple-mentation	7. Risk shar-ing
Challenge fund	Y	Y	Y	Y	Y	Y	Y
Open research grants	Y	Y	Y	Y	Y	Y	Y
Managed funds	?[18]	?	?	?	?	Y	Y
Prize fund	Y	?	?	?	?	Y	?
Technical assistance	Y	Y	Y	?	?	?	Y
Advanced market commitment	Y	Y	Y	Y	Y	Y	N
Social investment bond	Y	Y	Y	?	Y	Y	N
Social impact investing	?	Y	Y	N	N	Y	Y
Public investment	Y	Y	N	?	?	N	Y
Venture capital fund	N	N	?	?	?	?	Y
Public procurement	N	?	Y	Y	Y	N	N

Source: elaborated by authors

Table 2. Some sources of variation in challenge funds

Challenge fund characteristic	Possible variants
(1) Grant or subsidy component	Level of requirement for matching and/or leveraged funding from other sources. Entitlement to follow-up grants, loans or tranches.
(2) Specified public intent	Choice of sector(s), goals, indicators and standards for monitoring them.
(3) Inter-agency relationship	Legal status of agreement. The extent to which the funder retains influence over grantees, including political leverage.
(4) Eligibility and the extent of competition.	How and how widely funds are marketed. Broader or narrower eligibility criteria.
(5) Screening and selection rules and procedures	Design guidelines and selection criteria. Transparency and independence of assessment. Number of rounds and overall cost.
(6) Grantee autonomy in bid implementation	Complexity of guidelines. Extent to which compliance with them is monitored and enforced.
(7) Risk sharing to promote innovation	Permitted variation in activities and outcomes without triggering sanctions.

Source: elaborated by authors

[18] A question mark indicates that common use of the term implies neither that the characteristic is met or that it is not.

Table 3. Variation in scope, purpose and agency involvement.

	ECF	SCF	Hybrid	Total
Total number of cases	21	23	6	50
of which…				
• global coverage	3	8	4	15
• regional	12	7	1	20
• one country only	6	8	1	15
• DFID funded	12	18	3	33
• multiple funders	10	11	4	25
Eligible to be a grant holder[19]				
• Civil Society Organisation	7	19	4	30
• Enterprise	16	11	4	31
• Other[20]	5	9	5	19
• Mixed	4	12	4	20
Stated sectors/activities				
• Agriculture	7	-	-	7
• Civil society		1	-	1
• Climate Change	3	3	3	9
• Construction	-	2	-	2
• Democratisation	-	3	-	3
• Education	2	6	-	8
• Economic growth	2	1	-	3
• Enterprise	14	1	2	17
• Food security	3	1	-	4
• Gender	1	2	-	3
• Governance	-	9	2	11
• Health	1	6	1	8
• Finance	1	1	1	3
• Hunger reduction	-	6	-	6
• Forestry	-	-	1	1
• Livelihoods	4	1	-	5
• Legal reform	-	2	-	2
• Market failures	1	-	-	1
• Social inclusion	-	2	-	2
• Technology	2	-	1	3
• Trade policy	1	1	-	2
• Poverty reduction	6	4	3	13
• Water & sanitation	-	3	-	3

Source: Appendix

[19] Data missing for one fund.
[20] Including academic institutions, research institutes, co-operatives and mixed consortia.

Table 4. Variation in terms of funding available.

	ECFs	SCFs	Hybrid	Total	Cases with data
Total number of cases	21	23	6	50	
Mean fund value (£ million)	19.7	45.8	68.3	38.9	32
Mean minimum grant size (£ '000)	92.4	263.5	45.0	154.6	30
Mean maximum grant size (£ '000)	964.9	2,162.7	323.0	1,652.7	37
Average grant duration (years)	2.0	2.9	1.7	2.4	18
Number of cases with…					
• cost sharing	14	5	4	23	42
• full grants	4	14	0	18	42

Source: Appendix

Appendix. List of challenge funds analysed.

Enterprise challenge funds

Fund Name	Scale	Fund Size (UK GBP, million)	Fund Manager(s)	Other donors	Date of Activity	Cost sharing?
Afghanistan Business Innovation Fund	Country	8.5	Landell Mills	AusAid, DFID	2012-2014	Yes
Africa Enterprise Challenge Fund	Regional	130.6	KPMG Development Services Ltd	CGAP, DFID, IFAD, RNE, SIDA	2006 (ongoing)	Yes
Agricultural Technology Transfer Research Challenge Fund	Regional	3	Landell Mills	DFID	2013-2016	No
Business Innovation Facility	Regional	5.5		DFID	2010-2013	Yes
Construction Ideas Fund (Nigeria)	Country		Coffey International (GEMS Contruction and Real Estate Project)	DFID	2013 (ongoing)	Yes
Enterprise Challenge Fund	Regional	7.25 (to date)	Coffey International	AusAid	2007-2013	Yes
Enterprise Innovation Challenge Fund	Regional	26.55	Compete Caribbean	CIDA, DFID, IDB	Ongoing	Yes
Food Retail Industry Challenge Fund	Regional	7.64	Nathan Associates	DFID	2007 (ongoing)	Yes
GSMA mWomen Innovation Fund	Regional	4.1	Coffey International	AusAid, USAID, Visa	2013 (ongoing)	Yes
Innovation Fund for the Americas	Regional			DFID, Gates Foundation, DFID	2013-ongoing	?
Innovations Against Poverty	Global	2.58 (to date)	PWC	SIDA	2010 (ongoing)	Yes
Latin America Impact Economy Innovations Fund	Regional	0.55 (2012)		Fundación Avina, Avina Americas, Omidyar Network, The Rockefeller Foundation	2012 (ongoing)	No
Malawi Innovation Challenge Fund	Country	7.6		DFID, UNDP	2013 (ongoing)	?
mFarmer Initiative Challenge Fund	Regional		Coffey International	Bill & Melinda Gate Foundation, USAID	2011-2014	Yes
Powering Agriculture: An Energy Grand Challenge for Development	Global	13.05		SIDA, USAID, Duke Energy, USDA, OPIC	2012 (ongoing)	No
Responsible & Accountable Garment	Regional	3.5	Maxwell Stamp PLC	DFID	2010-2013	Yes

Sector						
Shell Springboard	Global	2.25 (to date)		-	2005-going	No
Tanzania Zonal Innovation Fund (RIU)	Country			DFID	2008-2012	?
The Sawaed Programme	Regional			Mohammed in Rashid Al Maktoum Foundation	2009 (ongoing)	Yes
UN Joint Programme 1 on Wealth Creation, Employment and Economic Empowerment Challenge Fund	Country			ILO	2009 (ongoing)	Yes
Vietnam Business Challenge Fund	Country		SNV	DFID	2012-2015	Yes

Hybrid challenge funds

Fund Name	Scale	Fund Size (UK GBP, millions)	Fund Manager	Other donors	Date of Activity	Cost sharing?
Ashden	Global	?		Christian Aid, Citibank, Eurostar, Impax, The World Bank	2001 (ongoing)	?
Business Sector Advocacy Challenge Fund	Country	1.96	COWI	DFIDD, Danida, EU, USAID	2004 (ongoing)	Yes
COOP Africa Challenge Fund	Regional	0.42 (round 1)	COOPAfrica	ILO	2008 (ongoing)	Yes
Development Innovation Ventures	Global			DFID, USAID	2013-2015	Yes
Forest Governance Markets and Climate Programme	Global	60		DFID	2010-2021	?
Grand Challenges Canada	Global	143		Government of Canada, Bill & Melinda Gates Foundation	2008-2013	Yes

Social and civil society challenge funds

Fund Name	Scale	Fund Size (UK GBP, millions)	Fund Manager	Donors	Date of Activity	Cost sharing?
Bangladesh Health Innovation Challenge Fund	Country		GRM International	DFID	2013-Present	?
Canadian Fund for African Climate Resistance	Regional	12.42		CIDA	2012-2014	Yes
Civil Society Challenge Fund	Global	56.51	Triple Line Consulting, Crown Agents	DFID	2002- 2015	No
Civil Society Support Programme	Country	30.15	Consortium - British Council, IDL, INTRAC	DANIDA, Irish Aid, Kingdom of the Netherlands, RNE, SIDA, UKAID	2012-2017	No
Climate & Development Knowledge Network Innovation Fund	Regional	1.1 (to date)		DFID	2011 (ongoing)	Yes & No
Development Awareness Fund	Country	24	Triple Line Consulting	DFID	2006-2013	No
Economic Empowerment of the Poorest Programme (SHIREE)	Country	65	Harewelle International Ltd, PMTC Bangladesh, Bath University, British Council, Unnayan Shamannay	DFID, Gov. of Bangladesh	2005-2016	?

Emprender Paz	Country	7.85		SIDA	2008 (ongoing)	?
Financial Education Fund	Regional	3.74	Cardno Emerging Markets, Genesis Analytics	DFID	2008-2013	No
Girls' Education Challenge Fund	Global	55	PWC, FHI 360, Nathan Associates, Social Development Direct Ltd	DFID	2011-2016	No
Global Poverty Action Fund	Global	149.47	Triple Line Consulting, Crown Agents	DFID	2011-2016	Yes & No
Governance & Transparency Fund	Global	130	KPMG Development Services Ltd	DFID	2007-2013	No
Health Enterprise Fund	Regional		Abt Associates	DFID, USAID	2013 (ongoing)	No
Human Development Innovation Fund for Tanzania	Country	30		DFID	2013-2018	Yes
Humanitarian Innovation Initiative	Global	9.5		DFID, USAID	2013-2015	Yes
Making All Voices Count- A Grand Challenge for Development	Global	29.43	Hivos	DFID, Omidyar Network, SIDA, USAID	2013 (ongoing)	No
Rights & Governance Challenge Fund	Country	37.98	Manusher Jonno Foundation	DFID, RNE	2008- 2013	No
Rights, Democracy & Inclusion Fund	Country	7.47	GRM International	AusAid, Danida, DFID, SDC	2006 (ongoing)	No
Sightsavers Innovation Fund	Global	1		DFID	2012 (ongoing)	No
The Arab Partnership Economic Facility	Regional	70		DFID, FCO	2011-2015	?
The Arab Partnership Participation Fund	Regional	20		DFID, FCO	2013-2017	?
The Children and Violence Evaluation Challenge Fund	Global	0.65 (round 1)	NEF (Network of European Foundations)	Oak Foundation, Bernard van Leer Foundation, UBS Optimus Foundation	2011 (ongoing)	No
The ClimDev Special Fund	Regional	19.33	African Development Bank (ADB)	African Development Bank, SIDA, African Union Commission, UN Economic Commission for Africa	2012-2014	?