

Sidestepping the Samaritan's Dilemma: Using a Dual Self Model to Explain Conditionality Failure

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Abstract

Conditionality failure is explained using a dual self model to characterize an aid donor. A myopic field office is so focused on a single recipient that it has no appreciation of the opportunity cost of aid. Consequently, it undermines conditional aid contracts (agreed by the donor head office) by ignoring unmet conditions. I show that sophistication (self-knowledge) can mitigate against the lack of commitment technology in the case of the single donor. However, with a dual self donor conditional aid fails to induce policy reform regardless of donor naivete/sophistication. Possible solutions are evaluated in light of the model.

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“Even after hundreds of protesters were shot dead by the police after the last elections in 2005, aid to Ethiopia was only repackaged in different forms, not suspended.”

The Economist (2010)

It is now commonly understood that donors find it difficult to enforce ex-ante conditionality in development aid. This has been termed conditionality failure, a failure on the part of donors to enforce conditional contracts that they themselves agreed. It can be summarized using the following steps¹:

1. A donor agrees an aid contract with a recipient. This specifies an aid transfer from donor to recipient, and a policy reform to be undertaken by the recipient.
2. The recipient, foreseeing the donor’s future actions, reneges on its promise of reform.
3. The donor threatens punishment, the recipient exhibits contrition and the donor fails to punish the recipient.
4. The ‘whole dance starts again’.

This story has been formalized in the seminal works of Svensson (2000, 2003) and many others. These accounts explain step three very well – the donor is stymied by its own inequality aversion, and thus cannot punish the recipient for fear of punishing the poor. This in turn explains step two, as recipient anticipates the future behavior of the donor, and reneges on a promise of costly policy reform. However, these accounts do not explain steps one and four² - why do donors not foresee their own future actions or learn from past behavior? The seemingly contradictory actions of the donor in agreeing contracts it cannot enforce are not properly understood. This is especially puzzling given that recipients are able to accurately predict the donor’s actions, and thus disregard any threats of punishment.

Previous work has typically offered a combination of three explanations for the inability of donors to punish recipients, adding unobservable reform effort and the lack of commitment technology to the donor’s poverty aversion. While a great step forward, these explanations fall short of being truly satisfying. In repeat game settings signals do become known (even if not fully), and real world signals are ignored (e.g. the quote at the beginning of this article). Perhaps the clearest refutation of this is the growing evidence that selectivity (ex-post conditionality) is not practiced by donors (Clist, 2011; Easterly, 2007; Hout, 2007). The explanation based upon the pro-poor stance of the donor also fails to convince completely, as it cannot

¹The language deliberately echoes that of a quote from The Economist that opened Svensson (2000).

²The focus has often explicitly excluded step 1 as the commitment stage, something done implicitly when the size of the aid budget is taken as exogenous and costless. Svensson (2000, pp.66) assumes the entire aid budget will always be disbursed, and the opportunity cost of giving aid to one recipient is not giving it to the other recipient. Svensson (2003, p.385) goes further and assumes no opportunity cost of disbursing committed aid, taking the commitment decision as given. Cordella and Dell’Ariccia (2007, p.1274) differ in their focus, but state that their model can be seen as the second stage of a two-stage game, where the first stage specifies the size of the aid contract.

explain why donors agree contracts which they are unable to enforce: a truly altruistic donor would punish recipients if it were to ensure a better outcome for the poor. Therefore it is commitment technology, or indeed the lack of it, that represents the heart of the problem. However, rather than fully explaining the problem, it merely presents a new one: why do donors lack commitment technology?

Even more troublesome is the lack of self-awareness; it appears donors do not take into account their lack of commitment technology, and yet it is fully predictable to recipients. The inability of donors to learn from their own mistakes is not easily explained within the framework of existing models. The importance of self awareness is far from new: O'Donoghue and Rabin (1999) showed that the distinction between sophisticated and naive agents resulted in very different welfare outcomes. However, the distinction has not been brought into the modeling of aid donors. This may be due to the focus on the disbursement stage and the relative dismissal of the commitment stage (see footnote 2). I show that the lack of commitment technology alone does not undermine conditional aid - it only does so in conjunction with naivete.

I borrow an idea, dual self models, from behavioral economics in order to explain conditionality failure. The model also provides a ready explanation of why donors possess neither commitment technology nor self awareness. dual self models have a long history and have been presented in many flavors, but typically consist of a long-sighted and short-sighted self in conflict. They can be quickly summarized by the names given to the dichotomous selves: Passions/Impartial Spectator (Adam Smith, see Ashraf et al., 2005), Impulsive/Patient (Fudenberg and Levine, 2006), Doer/Planner (Thaler and Shefrin, 1981), Affective/Deliberative (Loewenstein and O'Donoghue, 2004) and Hot/Cold state (Bernheim and Rangel, 2004). They have been used to explain procrastination, self-control, altruism, and the use of many types of commitment device. Here, a long-run donor self (named *head office*) has a dispassionate view of poverty reduction and is in charge of the commitment decision. A short-run donor self (named *field office*) is focused on 'the here and now', and is in charge of the disbursement decision. The emotion-induced institutional blinkering of the field office limits any appreciation of other time periods or recipients. This 'out of sight, out of mind' idea chimes with the dual self literature: "immediately experienced visceral factors have a disproportionate effect on behavior and tend to 'crowd out' virtually all goals other than that of mitigating the visceral factor." (Loewenstein, 1996, p.272)³

This is the preferred interpretation of the field office but the model is open to others, two of which are discussed here. First, the field office experiences warm glow giving, that is donors "gain utility from the act of giving" (Andreoni, 1990, p.473) rather than from the consequence of giving. Second, a less charitable interpretation than the field office being overly naive in its altruism is that they are responding to institutional incentives. This explanation chimes with a strand of the literature that argues institutional incentives cause

³For a discussion of the dual self literature which is most relevant here see Loewenstein and Small (2007).

excessive disbursement of aid, because of the incentives of individuals in donor organizations for promotion and so forth (Easterly, 2002; Kanbur, 2000; Thomas, 2004)⁴.

Typically, papers that use dual self models justify the modeling of a single individual as two competing selves using psychological research. That step is unnecessary here as while an aid donor is often modeled as a single agent, it is clearly not without internal tension. The department that agrees an aid contract will often not be that which deals with its enforcement. The modeling framework used here offers ready explanations for the two conundrums of conditionality failure: lack of commitment technology and self-awareness. Regarding commitment technology, it is evident that this doesn't exist if utility functions of the two selves differ. Regarding self awareness, a common finding in the dual self literature is that individuals systematically underestimate the effect that a visceral factor will have on them, despite multiple learning opportunities (Loewenstein, 2000). These findings relate to heat, sexual arousal, thirst and, most relevant here, altruism. While these findings relate to individuals, the explanations offered here offer a realistic account of donor behavior. Analogous to the individual that underestimates the effect of hunger, the dual self donor is unlikely to have self knowledge (sophistication) as the *HO* underestimates the effect altruism will have on the *FO*.

The model is introduced in section 1, and results presented in section 2. Self knowledge is shown to be a powerful tool in improving donor welfare when it lacks commitment technology. If it foresees and pragmatically accepts the limits of its ability to punish, it can alter contracts such that aid is effective in inducing reform effort: conditional aid works. However, with a dual self donor self knowledge is unlikely. Even if it does exist it is rather impotent, serving only to limit the disutility of over disbursement. This means if the dual self model accurately describes aid donors, conditionality failure should be expected to continue. Section 3 explores various solutions in light of the model, attempts to sidestep the problem. I argue that ex-post conditionality (selectivity) is the least plausible solution, and give reasons to believe that donors could implement certain forms of delegation. A third solution, pragmatic selectivity, is explored. This involves varying the type of aid in response to differing levels of governance and reform, pragmatically accepting that with a dual self donor the ability to vary the amount of aid is limited. This appears to be the most credible donor strategy. Section 4 concludes.

⁴The reader may wonder how the *HO-FO* relationship differs from a standard principal-agent model. The dual self framework is able to simultaneously assert the donor's unity and its dichotomous nature. A principal-agent framework would fail to do the former, thus overcorrecting for the weaknesses of previous accounts. The dual self framework is able explain the overconfidence of the *HO* in its ability to predict the *FOs* behavior because it recognizes both aspects.

1 The Model

There are two representative agents: a donor (subscript D) and a recipient (subscript R). The recipient country is made up of two constituencies: the poor (subscript 1) and the rich (subscript 2). The recipient government divides its resources (domestic revenue and international aid, if any) between the two constituencies, and all spending is subject to the same efficiency parameter (γ , set to unity). The welfare of the two groups is given by:

$$W_n = U(\gamma g_n) \quad (1)$$

Throughout, time subscripts are suppressed unless needed for clarity. For simplicity, I assume that the rich and poor have symmetrical and additively separable utility functions. The recipient divides the resources between the two constituencies according to its preferences (α , where $\alpha \in [0, 1]$, set to $1/2$). Any aid received (a) is assumed to be completely fungible (and hence could be thought of as general budget support), and so treated no differently from government revenue (G). The recipient's welfare is given by:

$$W_R = \alpha W_1 + (1 - \alpha)W_2 - \phi \quad (2)$$

The recipient has a budget constraint $g_1 + g_2 \leq a + G$, which due to the recipient's short-termism is always assumed to bind. The term ϕ refers to the cost of reform effort, which is introduced later. While the recipient values both constituencies, the donor only cares about the poor. The general form of the donor's welfare is given by:

$$W_D = \sum_{t=0}^T \left[\frac{W_{1t}}{(1+r)^t} - C_a(a_t) \right] \quad (3)$$

The donor has a budget constraint $0 \leq a_t \leq A_t$, and aid is costly, $C_a(a_t)$, such that $C'_a(a_t) > 0$ and $C_a(0) = 0$. There is a discount factor, r . When $r = 0$ all time periods are evaluated equally, as r increases the donor's time horizon recedes, and as r approaches infinity the donor only evaluates the first time period ($t = 0$). As discussed in the introduction, the donor has dual-selves: a long-sighted head office (HO) and a myopic field office (FO). The two selves are modeled as the extreme cases of $r = 0$ (HO) and $r = \infty$ (FO). Just as the two donor selves differ in their evaluation of the poor's utility, they differ in their evaluation of the cost of aid. We start with a general cost function for the donor:

$$C_a(a) = f \left(\sum_{j=1}^{j=N} \frac{U_j(a)}{(1+r)^j} \right) \quad (4)$$

While we analyze the contract between a representative recipient ($j = 0$) and donor, the opportunity cost of aid is determined by a function of how it could be used in other countries ($j \neq 0$). Applying the same logic to the donor selves' appreciation of aid cost as used for aid benefit, the discount factor for the head office reflects the fact that it is an impassionate observer ($r = 0$), whereas the field office is deeply involved and focused on this particular recipient ($r = \infty$)⁵. The donor selves' welfare functions can be rewritten as:

$$W_{HO} = \sum_{t=0}^T [W_{1t} - C_a(a_t)] \quad (5)$$

$$W_{FOt} = W_{1t} \quad (6)$$

A reform can be enacted, but it has uncertain results which depend on reform effort (i). The recipient chooses reform effort ($i \in [0, 1]$), which is costly, $C_i(i)$, but increases the chance of a successful reform, realization of $\bar{\gamma}$, given by $h(i)$. Thus:

$$P(\gamma = \bar{\gamma}) = h(i) \text{ where } h'(i) > 0 \text{ and } h(0) = 0 \quad (7)$$

$$\phi = C_i(i) \text{ where } C'_i(i) > 0 \text{ and } C'_i(0) = 0 \quad (8)$$

1.1 The Game Structure: Sequence

For simplicity, let us imagine only two time periods, and start with full information, commitment technology and a single donor self (HO) in all stages. Those stages are:

- Stage 1: The Donor offers the Recipient a contract specifying reform effort and aid. The Recipient either accepts or rejects the contract, and then chooses its reform effort.
- Stage 2 ($t = 0$): The Donor observes reform effort and disburses aid according to the contract agreed. The Recipient divides funds, and realizes any positive reform outcome.
- Stage 3 ($t = 1$): Stage 2 is repeated ($a_0 = a_1$, $i_0 = i_1$ and $\gamma_0 = \gamma_1$).

⁵This results in a zero cost of aid for the field office. This may seem extreme, but the field office is so focused on a single recipient and time period that it fails to conceive of any opportunity cost of aid. The result resembles Svensson's (2003) model, where the opportunity cost of disbursing pre-committed aid is simply assumed to be zero.

1.2 Reservation Utilities

It is useful to calculate the case without aid, as it forms the reservation utility for both donor and recipient. The recipient will not enact any reforms here (see section 1.3 for a discussion). Recipient utility is:

$$W_{Rt} = \alpha W_{1t} + (1 - \alpha)W_{2t} = \frac{U(\gamma g_{1t})}{2} + \frac{U(\gamma g_{2t})}{2} = U\left(\frac{G}{2}\right) \quad (9)$$

The superscript *NA* (no aid) is attached to this: $W_R^{NA} = U\left(\frac{G}{2}\right)$, and it forms the recipient's reservation utility. Recalling that for aid $C_a(0) = 0$, the donor's reservation utility can also be found:

$$W_{HO} = \sum_{t=0}^{t=1} W_1 = \sum_{t=0}^{t=1} U\left(\gamma \frac{G_t}{2}\right) = 2U\left(\frac{G}{2}\right) \quad (10)$$

Using the same superscript as before we can write $W_{HO}^{NA} = 2U\left(\frac{G}{2}\right)$. (While not discussed here, $W_{FO}^{NA} = U\left(\frac{G}{2}\right)$ is the field office's reservation utility.)

1.3 A Word on Reform Size

Any reforms yielding large benefits would be enacted regardless of donor behavior, and so the focus is on reforms that yield small yearly benefits. This is a realistic story, as the government will not pursue reforms which are associated with large political costs, the benefits of which may not be realized before the next election. The reforms that will be enacted by the recipient regardless of the donor's actions are those for which the expected reform benefit outweighs the expected cost for the recipient, in a given year. Both donor and recipient are assumed to be risk neutral.

The cost of any reform effort for the recipient is $\phi = C_i(i)$, and the benefit of any reform for the recipient is the differential welfare impact, which can be written as $P(\gamma = \bar{\gamma}) [\Delta\gamma U\left(\frac{G}{2}\right)]$ where $\bar{\gamma} - \gamma = \Delta\gamma$ and $\bar{\gamma} > 1 = \gamma$ (see appendix for derivation). Thus where there is a reform such that an i exists that satisfies $P(\gamma = \bar{\gamma}) [\Delta\gamma U\left(\frac{G}{2}\right)] > \phi$, alternatively written $h(i) [\Delta\gamma U\left(\frac{G}{2}\right)] > C_i(i)$, the recipient will enact the reform (by choosing i) without donor involvement. Thus for the remainder I assume all such reforms have been previously enacted and only less attractive reforms remain, and so state:

$$C_i(i) > h(i) \left[\Delta\gamma U\left(\frac{G}{2}\right) \right] \quad (11)$$

1.4 Aid Contract with full information, no reform

With aid but without reforms, the donor faces the following maximization problem:

$$\max_{a_t} \sum_{t=0}^{t=1} W_{1t} - \sum_{t=0}^{t=1} C_a(a_t) = \max_a 2U\left(\frac{G+a}{2}\right) - 2C_a(a)$$

So, wherever $2U\left(\frac{G+a}{2}\right) > 2C_a(a)$ aid will be granted, until the point where $U'\left(\frac{a}{2}\right) = C'_a(a)$. Let us refer to this result with the superscript NR for ‘no reform’: $U'\left(\frac{a^{NR}}{2}\right) = C'_a(a^{NR})$. In this case the recipient is strictly better off than in the no aid case as its budget constraint has been loosened without any extra costs being imposed. The utility functions of the recipient and head office follow:

$$W_R^{NR} = U\left(\frac{G+a^{NR}}{2}\right) = W_R^{NA} + U\left(\frac{a^{NR}}{2}\right) \quad (12)$$

$$W_{HO}^{NR} = 2U\left(\frac{G+a^{NR}}{2}\right) - 2C_a(a^{NR}) \quad (13)$$

The field office, which is introduced into the analysis later, would receive $W_{FO}^{NR} = U\left(\frac{G+a^{NR}}{2}\right)$.

2 Results

Having introduced the model, let us turn to the results. For reasons of limited space and interest not every possible variation is presented systematically, instead only the most basic and interesting results are discussed. Starting with the first best case of full information, commitment technology, and self-awareness I relax each of these assumptions in turn, discussing single and dual self donor models as appropriate. A dual self donor cannot possess commitment technology, and so is first discussed when this assumption is relaxed. As far as possible derivations are kept within the text, but occasionally a long derivation is unavoidable and so details are relegated to the appendix.

2.1 First Best: Full Information

In agreeing an aid contract in the first best case of full information and commitment technology, the single donor will offer a contract on i . Welfare for the donor head office is given by:

$$W_{HO} = h(i) \left[\Delta\gamma 2U\left(\frac{G+a}{2}\right) \right] + 2U\left(\frac{G+a}{2}\right) - 2C_a(a)$$

The donor is the Stackelberg leader and so able to capture any welfare gains from aid, meaning the recipient’s utility with aid should be equal to its reservation utility (the constraint binds). It follows that $U\left(\frac{G_t}{2}\right) = U\left(\frac{G_t+a_t}{2}\right) + h(i) \left[\Delta\gamma U\left(\frac{G_t+a_t}{2}\right) \right] - C_i(i)$. A contract is offered such that $U\left(\frac{a_t}{2}\right) + h(i^*) \left[\Delta\gamma U\left(\frac{G_t+a_t}{2}\right) \right] = C_i(i^*)$, or in words: the recipient’s political cost of reform is compensated for by a combination of the

estimated extra utility resulting from any efficiency improvement and the aid given. The donor faces the following maximization:

$$\max_{a^*, i^*} 2h(i^*)\Delta\gamma U\left(\frac{G+a^*}{2}\right) + 2U\left(\frac{G+a^*}{2}\right) - 2C_a(a^*)$$

subject to $0 \leq a_t < A_t$. Substituting in the previous result for $h(i^*) [\Delta\gamma U(\frac{G+a_t}{2})]$ from the recipient's (binding) participation constraint, the problem can be simplified to $\max_{a^*, i^*} 2C_i(i^*) + 2U(\frac{G}{2}) - 2C_a(a^*)$. Hence the donor chooses an aid contract (a^*, i^*) such that:

$$C'_i(i^*) = C'_a(a^*) \tag{14}$$

It is worth noting that while both recipient and donor enjoy the benefits of aid and any reform, the donor's involvement incentivises a reform that would not have otherwise occurred. The result can be thought of as equating costs between the donor (for aid) and the recipient (for reform) in such a way that the recipient will just agree to the aid contract, and all benefits accrue to the donor. I use the superscript $*$ for this result, to indicate it is the first best situation. The donor bears the risk because of the full information setting. While the recipient, as Stackelberg follower, is no better off with aid and reforms than in the no aid case (and worse off than in the no reform case), the poor are better off as they receive $W_1^* = U(\frac{G+a^*}{2}) + h(i^*) [\Delta\gamma U(\frac{G+a^*}{2})]$. This is better than either the no aid or no reform cases, respectively given by $W_1^{NA} = U(\frac{G}{2})$ and $W_1^{NR} = U(\frac{G+a^{NR}}{2})$. The poor benefit from additional aid, which is non-existent in the no aid case and smaller in the no reform case. They also benefit from any reform: conditional aid works. This reform benefits the recipient as a whole, but it is too short-sighted to enact this reform on its own.

2.2 Second Best: Partial Information

Let us now turn to the setting without full information, i.e. where γ is observable but i is not. The donor now proposes a contract such that \bar{a} is given conditional on $\bar{\gamma}$ being observed, and \underline{a} is given conditional on $\underline{\gamma}$ being observed (where $\underline{\gamma} = 1$). Along with the reservation utility of the recipient, the donor needs to consider the recipient's incentive compatibility constraint. In order to induce a higher effort it needs to make the prize of achieving $\bar{\gamma}$ large enough that the recipient will be willing to bear the risk of the reform. The donor sets $\underline{a} = 0$ as that is the only way to concurrently make the participation and incentive compatibility constraints bind (see appendix) and thus take advantage of its position as Stackelberg leader. The donor HO 's maximization problem is then:

$$\max_{\bar{a}} h(i) \left[2U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma 2U\left(\frac{G + \bar{a}}{2}\right) - 2C_a(\bar{a}) \right] + [1 - h(i)] \left[2U\left(\frac{G}{2}\right) \right]$$

$$\text{Subject to } A \geq \bar{a} > 0 \text{ and } h(i^{sb}) \left[U\left(\frac{\bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] = C_i(i^{sb})$$

The second constraint is the recipient's binding participation constraint, which shows that the cost equals the expected benefit for the recipient. Whether the donor will provide such a contract depends upon its utility in such a situation. The donor's reservation utility is $W_{HO}^{NA} = 2U\left(\frac{G}{2}\right)$, and we check if this level of aid (\bar{a}) is viable by writing the *donor's* participation constraint, which simplifies (see appendix) to give the intuitive result:

$$\frac{C_i(i^{sb})}{h(i^{sb})} > C_a(\bar{a}^{sb}) \quad (15)$$

Therefore the donor commits aid up to the point where $\frac{C_i(i^{sb})}{h(i^{sb})} = C'_a(\bar{a})$. Note that in the *FB* case (14) the donor is able to offer $C'_i(i^*) = C'_a(a^*)$, but in this case the donor must also reflect the likelihood that a given level of effort results in a positive reform: the donor must compensate the recipient for bearing the risk. The result simplifies to the *FB* case if $h(i^{sb}) = 1$, i.e. if the recipient can exert effort such that $\bar{\gamma}$ is guaranteed. It is more likely that there is uncertainty about the reform outcome: $h(i^{sb}) < 1$. In this case the left hand side increases, and so aid increases ($\bar{a}^{sb} > a^{fb}$): the recipient receives more aid when $\gamma = \bar{\gamma}$ in the SB case than in the *FB* case for the same effort level - this is a premium to incentivise effort because only the outcome is observed. This difference can be thought of as the information rents of the recipient.

2.3 Lacking both Commitment Technology and Self-Awareness

So far, the contract is agreed in stage 1, and it has been assumed that the donor can commit to fulfilling the contract in stage 2 and 3. I now relax this assumption, meaning that if it is advantageous to both recipient and donor to renegotiate the contract, they will do so. In this section the donor not only lacks commitment technology, but also self-awareness. As the dual self donor implies a lack of commitment technology, this is the first section to deal with a dual self donor.

Proposition 1 *i) The donor would respond to the recipient reneging on its promised reform effort by reducing aid. However, it would only reduce from a^* to a^{NR} , and be worse off than the second best case.*

ii) The HO donor that lacks commitment technology and yet tries to enforce the second best contract will fail to induce reform effort in the recipient. As its incentive compatibility constraint is not met, the recipient will choose $i = 0$.

Proof. i) The *HO* will prefer A^{NR} to A^* in the case where the recipient reneges. It is clear that $a^* > a^{NR}$ as the *FB* and *NR* situations share a common cost function of aid, but the positive utility of aid is higher in the first best situation (due to the possible reform effort). However, when the possible reform effort is removed the *HO* donor will decrease aid to a^{NR} , which is the optimum level of aid in the no reform case. The disutility incurred by not reducing aid is represented by area *b* in Figure 1.

ii) In the second best contract in section 2.2 the incentive compatibility constraint binds:

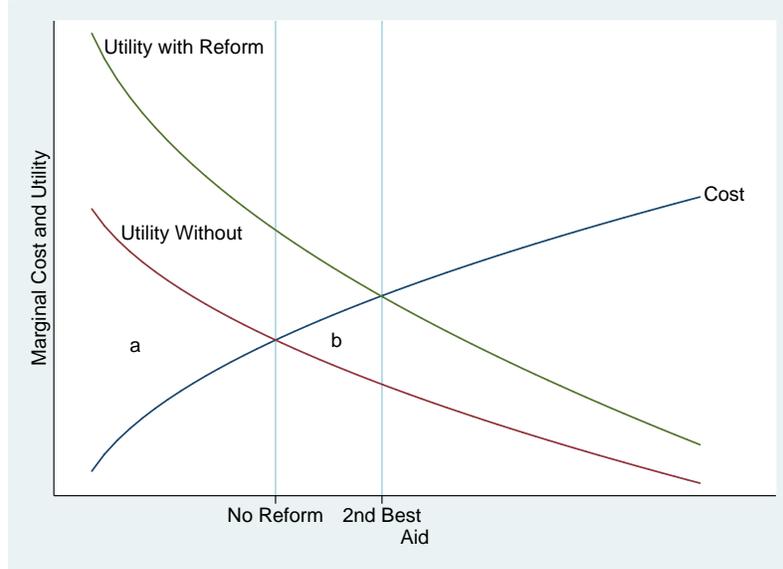
$$h(i) \left[U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] + [1 - h(i)] \left[U\left(\frac{G}{2}\right) \right] - C_i(i) = U\left(\frac{G}{2}\right)$$

However, in the case without commitment technology the incentive compatibility constraint alters to account for the fact that $\underline{a} \neq 0$ but rather $\underline{a} = a^{NR}$ (shown above). The recipient correctly predicts that it actually faces the following incentive compatibility constraint:

$$h(i) \left[U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] + [1 - h(i)] \left[U\left(\frac{G + a^{NR}}{2}\right) \right] - C_i(i) > U\left(\frac{G + a^{NR}}{2}\right)$$

This change positively affects both sides. However, subtracting the previous (binding) constraint it is clear that this constraint only binds if $[1 - h(i)] \left[U\left(\frac{a^{NR}}{2}\right) \right] > U\left(\frac{a^{NR}}{2}\right)$, which cannot hold as it can bind only if $[1 - h(i)] = 1$, in which case $i = 0$. Thus the *HO* donor cannot induce effort in the recipient by using the second best contract: the recipient would simply choose $i = 0$. ■

Figure 1: Marginal Cost and Utility of Aid



Conjecture 2 *The naive dual self donor will, like the single donor, try to enforce the second best contract and the recipient will respond by choosing $i = 0$. However, the result will be even worse for the HO as the FO will disburse \bar{a} .*

Conjecture 2 shows that the combination of dual self donor with the lack of both commitment technology and self-knowledge produces an even worse result for the HO, undermining conditional aid. The FO donor sees aid as costless and thus disburses the maximum allowed. This means that the disutility of area b in Figure 1 is incurred by the HO donor. As the FO will renege on the HO-agreed contract, the recipient is incentivised to choose low effort, but claim to have done otherwise. The FO may even misrepresent the situation to the HO as one of a high i signal in order to justify its actions, despite the lack of information regarding the signal.

2.4 Self-awareness

So far, I have examined situations where the HO donor lacks both commitment technology and awareness of this fact. The donor has thus tried to enforce the second best contract, unaware that it is unable to. Let us now furnish the HO donor with self knowledge; ‘selves knowledge’ in the case of the dual self donor. This sophistication means that the HO donor has the foresight, like the recipient, to predict its behavior in stages 2 and 3, and can alter contracts in stage 1 accordingly.

Proposition 3 *The single donor that is self-aware regarding its lack of commitment technology can induce reform effort in the recipient by deviating from the second best contract and offering a larger \bar{a} . In this case the poor are better off, as is the HO donor.*

Proof. The self-aware single donor accepts that the incentive compatibility constraint (which in turn satisfies the participation constraint of the recipient) is given by:

$$h(i) \left[U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] + [1 - h(i)] \left[U\left(\frac{G + a^{NR}}{2}\right) \right] - C_i(i) \geq U\left(\frac{G + a^{NR}}{2}\right)$$

It therefore accepts that $\underline{a} = a^{NR}$, and tries to maximize its first-mover advantage by making the incentive compatibility constraint bind. Simplifying the binding constraint gives $h(i) \left[U(\bar{\gamma}\frac{G+\bar{a}}{2}) - U(\frac{G+a^{NR}}{2}) \right] = C_i(i)$. Rearranging to get $U(\bar{\gamma}\frac{G+\bar{a}}{2}) - U(\frac{G+a^{NR}}{2}) = \frac{C_i(i)}{h(i)}$, it is clear that the donor chooses \bar{a} such that $U'(\bar{\gamma}\frac{G+a^{SS}}{2}) - U'(\frac{G+a^{NR}}{2}) = \frac{C'_i(i)}{h'(i)}$. ■

The superscript SS is used to denote a single sophisticated (self-aware) donor, where $\bar{a} = a^{SS}$ and $\underline{a} = a^{NR}$. It is interesting to compare this result with first (14) and second (15) best results. In the first best result merely the cost of aid and reform are equated. In the second best result, the donor must also

compensate for the likelihood that a reform effort will be unsuccessful. In this situation, the donor must also take into account the size of any additional benefit of successfully reforming against an alternative that includes an aid transfer. Consider the comparative statics: \bar{a} is increasing in a^{NR} and $c(i)$, and decreasing in $h(i)$, $\bar{\gamma} - \gamma$, and G . This means that the donor must provide a larger prize for successful reform if the cost of effort or alternative level of aid is high, but a smaller prize if the likelihood or effect of a successful reform is high.

In the case of a successful reform the donor would receive $2U(\frac{\bar{\gamma}G + \bar{a}}{2}) - 2c(\bar{a})$, compared to $2U(\frac{G + a^{NR}}{2}) - 2c(a^{NR})$ in the case of an unsuccessful reform. The *HO* donor will only offer such a contract if diverting from the a^{NR} default is worthwhile, that is if $2U(\frac{\bar{\gamma}G + \bar{a}}{2}) - 2U(\frac{G + a^{NR}}{2}) > 2C_a(\bar{a}) - 2C_a(a^{NR})$. This is a similar finding to that found using comparative statics on the recipient side: a larger G , the greater $\bar{\gamma} - \gamma$, and the smaller a^{NR} the more attractive such a contract is for the *HO*.

Proposition 4 *The dual self donor, even with self awareness, cannot design a contract $[\underline{a}, \bar{a}]$ in such a way that meets the recipients incentive compatibility constraint, as the recipient correctly predicts that the *FO* donor will disburse \bar{a} regardless of reform effort and outcome. In light of this, the *HO*'s optimal strategy is to set $\bar{a} = \underline{a} = a^{NR}$, which at least avoids the disutility caused by excessive disbursal.*

Proof. This follows directly from the *FO*'s utility function. It is always in the interest of the *FO* donor to disburse the maximum aid it can (\bar{a}), as it is costless. Thus \bar{a} should be chosen with the acknowledgment that no reform will take place: this is given by a^{NR} . ■

It is worth discussing the welfare of the poor. In the case of the sophisticated dual self donor it is given by the *NR* case: $W_1^{NR} = U(\frac{G + a^{NR}}{2})$. The poor are better off with a single donor that is self aware, as if a reform is successful they benefit from both the reform and higher aid: $W_1^{SS} = h(i)U(\frac{G + a^{SS}}{2}) + [1 - h(i)]U(\frac{G + a^{NR}}{2})$. While donor welfare is severely damaged by naivete, the poor benefit from the ‘overdisbursal’ of aid, even as conditional aid is undermined. The poor, in the case of the single naive donor, receive $W_1^{SN} = U(\frac{G + a^{NR}}{2})$ and $W_1^{DN} = U(\frac{G + a^*}{2})$ in the case of the dual self naive donor. Clearly they are better off in the latter case, as $a^* > a^{NR}$. Whether the poor are better off in the case of a naive dual self donor or a sophisticated single donor is unclear: technically it depends upon the benefit and likelihood of successful reform. However, concluding that the poor are better off with a dual self naive donor would require a definition of the poor limited to this specific recipient and time period. This realization underlines the importance of conditional aid, as it extracts policy reforms that benefit all of the parties involved and so increases the efficiency of aid.

2.5 Summary of Results

“Know Thyself” ancient Greek aphorism

“To thine own self be true” Hamlet

The main results can be summarized using the two famous quotes above. First, self-awareness on the part of the donor, a pragmatic acceptance of the limits to any punishment, improves outcomes and mitigates against the lack of commitment technology. This is the consequence of acknowledging that it cannot credibly threaten $\underline{a} < a^{NR}$, and in order to meet the recipient’s incentive compatibility constraint must increase \bar{a} accordingly. While the lack of commitment technology does mean a lower level of welfare than the second best case, self-awareness improves outcomes considerably and results in aid that is effective in incentivising reforms that would not be otherwise enacted due to recipient myopia. This insight comes from applying the distinction between naive and sophisticated agents (O’Donoghue and Rabin, 1999) to the aid donor-recipient setting.

Second, the problem for the donor in a dual self model is that each self is true to its own self. Sophistication is unlikely in the dual self donor case, as the *HO* donor underestimates the effect of altruism on the *FO*. This is analogous to individuals underestimating the effects of heat, hunger, thirst and other visceral factors. Even with the powerful tool of selves awareness, outcomes are improved in a limited fashion. The *FO*’s predilection for disbursing the maximum possible aid removes the *HO*’s ability to vary aid, and so it cannot incentivise reform. The best the *HO* can do is limit the disutility of excessive aid disbursement. This result is consistent with the continued failure of conditional aid, and aid’s inability to induce policy reform.

I have presented a model that accounts for the lack of commitment technology and self-awareness, as each flows quite naturally from a dual self model. The message of the model is that self-awareness is a powerful tool that can combat the lack of commitment technology, but rather impotent in the case of a dual self donor. The dual self framework gives reason to believe that the donor possesses neither commitment technology nor sophistication. This is consistent with continued conditionality failure: can the situation be rectified?

3 Possible Solutions

In light of the model and its results, I now examine three possible solutions. Because the model incorporates both commitment and disbursement stages, it offers a novel understanding of conditionality failure which can be applied to an analysis of suggested remedies. Svensson (2003, p.399) stated that “[a] question partly left unanswered is, why is it that if the linking of the allocation/disbursement decisions improves outcome, the donor community does not explicitly link these decisions?” This desire stems from the simple observation that the problem of time inconsistency is avoided if there is only one time period. The first two solutions discussed here have been proposed previously, and rely on linking the allocation and disbursement decisions by condensing donor actions into a single decision. The hope is that moving the disbursement decision to stage

1 maintains the level-headed donor of stage 1, but changes the importance of the stage. However, it is clear that moving the disbursement decision to stage 1 affects the donor. While the two donor selves are modeled using extreme values of r , a more realistic approach would have less extreme values of r . Furthermore, the simple dichotomy of Head Office and Field Office is not as realistic as an internal policy dialogue, with various *FOs* lobbying the *HO*. In applying the model to these solutions one factor is which value of r is the best approximation of the donor at the time the decision is made.

3.1 (Ex-Ante) Conditionality is dead, long live (ex-post) Conditionality?

One commonly suggested solution to the failure of ex-ante conditionality is a move towards ex-post conditionality (Collier and Dollar, 2002; Svensson, 2003; Azam and Laffont, 2003). It is shown in section 2.3 that the HO donor cannot credibly offer less than a^{NR} , and so the question is whether donors are able to successfully vary aid commitments/disbursements between a^{NR} and \bar{a} according to policy environments. This rests on the level of r , i.e. the extent to which the individual *FOs* are blinkered. Cryder and Loewenstein (2010) assert that there is a correlation between tangibility and generosity, which implies a continuum of r in this setting. Moving the disbursal decision to coincide with the commitment decision also moves the situation of high tangibility (i.e. a high r) to coincide with the commitment decision. As the wife of a former World Bank president is reported to have said on hearing that selectivity meant withholding aid from bad governments, even if its citizens were poor: ‘you mean we are supposed to just let them die?’ It is not clear why a donor that fails to punish a recipient that has not enacted a pre-agreed policy reform would be any more capable of withholding aid from a recipient that has not enacted a policy reform, but never promised to (and so is, in some sense, more deserving). The World Bank (2005, p.21) themselves argued “[i]f donors can be selective, cherry-picking countries they financially support and excluding others, what prevents them from being able to enforce their conditions in the old-style conditionality game?” This argument is consistent with the empirical evidence that selectivity has not been practiced (Clist, 2011; Easterly, 2007; Hout, 2007).

3.2 Delegation

The literature has proposed delegation to a less altruistic third party as a solution to the Samaritan’s dilemma (Svensson, 2000; Hagen, 2006). This policy suggestion is related to the idea that a central banker is the correct commitment device to guard against governments using interest rates for short-term political advantage. The policy of delegation to central bankers has been followed to a great extent - certainly more than there has been a move towards delegating aid budgets to multilateral donors. Let us examine this idea with the three interpretations of the model in mind. First, the preferred dual self model interpretation: the *FO*

is emotionally attached to the recipient it works with, and blinkered to other time periods and recipients. Hamman et al. (2010) show in experiments with individuals that delegation enables the principal (in this case the *HO* donor) to feel less emotionally affected by an action if it is implemented by an agent (in this case a multilateral aid donor). In essence, they find that by splitting the decision and the implementation between a principal and agent each can feel less responsible for the action, each blaming the other. This would imply that delegation is a possible solution. Second, *FO* behavior is described by warm glow giving: utility comes from the act, not the result, of giving. The warm glow of giving is not as strong when the giving has been delegated, rather it is the direct link to giving that provides the utility. This can be seen in the proliferation of new aid agencies both by citizens in high income countries and the new bilateral donors. Third, institutional incentives determine *FO* behavior, as individual employees respond to institutional incentives to disburse large amounts of aid and propagate their employer's existence. In this case the analogy with central bankers is less than perfect as it ignores the institutional incentives. A government ceding power to a central banker gains politically in the short term, whereas it is not clear what gain a politician, donor agency or employee will gain from such an act. A donor agency has no incentive to propose a move that reduces their role. Of the three interpretations, only one suggests delegation is a possible solution to conditionality failure created by a dual self donor. The empirical evidence shows little movement in the amount of aid that is channeled through multilateral agencies: delegation of the sort imagined has not increased in recent years. However, there are pockets of delegation. The best example is the Millennium Challenge Account - aid is delegated by the US to a separate entity that disburses aid according to a strict policy rule. This may work better than delegation to multilaterals because of the clear rule. By contrast, there are not clear instructions from a bilateral donor to a multilateral organization, and little evidence that they are less inequality averse or emotionally attached to recipients than bilateral donors. Öhler et al. (Forthcoming) examine the effectiveness of the Millennium Challenge Account and find evidence of limited success, which chimes with the partial theoretical support for delegation, and suggests a type of delegation which may prove fruitful.

3.3 Pragmatic Selectivity

The quote at the beginning of this article was chosen as an apt description of conditionality failure, but it also hints at one strategy that donors already use to sidestep this, a strategy I call pragmatic selectivity. While donors are unable to withhold aid when conditions are unmet, they do alter the modality - the type of aid. This strategy has not been formally presented by donors, but it can be identified in various policy documents and statements.

“...some have argued that in the worst cases - where corruption is rife and governance poor -

we should walk away. But we cannot abandon aid just because a country has corrupt leaders ... we can earmark aid for a particular program of work in a sector and account for that money independently through a separate bank account. We do this in the education sector in Kenya, where the financial risk of handing over money to the government is too great.”

The then Secretary of State for DfID, Hillary Benn (2006)

“Budget support will not always be the most effective way of delivering aid to governments. For example, where government budgets do not prioritize the needs of poor people or where governments are not tackling weaknesses in their public financial management systems or corruption. In these cases we will use other ways of delivering our aid.”

DfID (2008, p.2)

Empirical evidence of the use of pragmatic selectivity can be found in Clist et al. (Forthcoming) and Knack and Eubank (2009). The donor strategy is to vary modality in relation to the governance level of recipients, ceding more control to recipients with high levels of governance. The dual self model implies that this strategy is plausible: the *FO* has no preference for one type of aid over another⁶, but the recipient would clearly prefer a high degree of control. Thus while the *FO*'s determination to disburse means the *HO* is reluctant to commit more than a^{NR} , it can delegate the use of modality in response to reform outcomes effectively. This is a pragmatic response to the donor problem. Future work could investigate this solution theoretically, combining the insights of this paper with those of Cordella and Dell’Ariccia (2007), who examine aid modality in a contract theory framework.

4 Conclusion

I construct a dual self model of conditionality failure. The utility functions of the two donor selves are derived from a common starting point, with distinct valuations of other time periods and potential aid recipients resulting in different incentives. The field office is focused on a single time period and recipient, whereas the head office is more detached. This approach to conditionality failure resolves three weaknesses of previous accounts by incorporating the commitment and disbursement stages into the same model, and offering explanations for the lack of both commitment technology and self awareness. First, including the commitment and disbursement stages in the same model allows a greater understanding of the donor’s time inconsistency. Second, the lack of commitment technology is easily understood in a dual self framework, as the two selves

⁶It could be argued that institutional incentives would mean a *FO* would prefer more control. However, it appears that GBS has widespread support, and it may be that institutional incentives mean they prefer GBS as it is the ‘fashionable’ modality. The incentives of the *FO* over aid modalities is an open question.

have competing utility functions. Third, the probable lack of self-awareness is also explained, analogous to the inability of subjects in experimental research to accurately predict the effect of visceral factors.

Self-awareness and commitment technology are examined separately and shown to have different effects on donor welfare, with the possession of self-awareness mitigating the lack of commitment technology. The single donor that is ignorant of its lack of commitment technology attempts to enforce the second best contract, but fails. By pragmatically accepting the limits of any punishment, the sophisticated donor can increase the aid given in the case of successful reform effort, thus restoring the ability of conditional aid to induce reform. However, the case of the dual self donor is not as positive. The field office's constant desire to disburse means that the head office cannot induce reform effort as it cannot vary aid. Self-knowledge is unlikely and (if it exists) relatively impotent in the case of a dual self donor, serving only to limit the disutility of excessive aid disbursement. If the dual self account of donor behavior is accurate, conditionality failure appears inevitable.

Combining commitment and disbursement decisions into a single model gives a clear basis on which to discuss possible solutions, of which three are examined. In line with empirical evidence, selectivity (ex-post conditionality) is found to be the least likely strategy to be employed by donors, as it does not solve the problem at the heart of conditionality failure. Regarding delegation, the evidence is more mixed. While the common suggestion of delegation to multilateral agencies finds little support either empirically or theoretically, there is some cause for optimism regarding more donor-specific delegation mechanisms. Pragmatic selectivity, altering the type of aid in relation to the level of governance, appears most plausible. This is because it sidesteps the problem by pragmatically acknowledging that the field office donor undermines attempts to alter the volume of aid, but does not stymie the use of modality to incentivise and reward reform.

A Appendix

This is a mathematical appendix, which contains more information on results in the text where necessary. It is organized by section.

A.1 Derivation of Reform Size from Section 1.3

The cost of any reform effort for the recipient is $\phi = C_i(i)$, and the benefit of any reform for the recipient is the differential welfare impact of doing a reform:

$$P(\gamma = \bar{\gamma})[(\alpha U(\bar{\gamma}g_{1t})) + (1 - \alpha)(U(\bar{\gamma}g_{2t}))] +$$

$$P(\gamma=\bar{\gamma})[\alpha(U(\gamma g_{1t})) + (1 - \alpha)(U(\gamma g_{2t}))]-[\alpha(U(\gamma g_{1t})) + (1 - \alpha)(U(\gamma g_{2t}))]]$$

This can be written as $P(\gamma = \bar{\gamma}) [\Delta\gamma U(\frac{G}{2})]$ where $\bar{\gamma} - \gamma = \Delta\gamma$ and $\bar{\gamma} > 1 = \gamma$. Thus where there is a reform such that an i exists that satisfies $P(\gamma = \bar{\gamma}) [\Delta\gamma U(\frac{G}{2})] > \phi$, alternatively written $h(i) [\Delta\gamma U(\frac{G}{2})] > C_i(i)$, the recipient will enact the reform (by choosing i) without donor involvement.

A.2 Derivation of Second Best Contract from Section 2.2 Part I

The *HO* donor will offer \bar{a} where $\bar{\gamma}$ is observed, and \underline{a} otherwise (where $\underline{\gamma} = 1$). The donor *HO*'s maximization problem is

$$\max_{\bar{a}, \underline{a}} h(i) \left[2U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma 2U\left(\frac{G + \bar{a}}{2}\right) - 2C_a(\bar{a}) \right] + [1 - h(i)] \left[2U\left(\frac{G + \underline{a}}{2}\right) - 2C_a(\underline{a}) \right]$$

subject to its budget constraint $A \geq \bar{a} > \underline{a} \geq 0$, and the recipient's participation and incentive compatibility constraints, shown respectively below:

$$h(i) \left[U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] + [1 - h(i)] U\left(\frac{G + \underline{a}}{2}\right) - C_i(i) \geq U\left(\frac{G}{2}\right)$$

and

$$h(i) \left[U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] + [1 - h(i)] U\left(\frac{G + \underline{a}}{2}\right) - C_i(i) \geq U\left(\frac{G + \underline{a}}{2}\right)$$

Its clear that the participation constraint can only bind at the same time as the incentive compatibility constraint if $\underline{a} = 0$. The donor does this in order to make use of its Stackelberg advantage by making the constraint bind. The donor *HO*'s maximization problem is now (as shown in the body of the text) $\max_{\bar{a}} h(i) \left[2U\left(\frac{G + \bar{a}}{2}\right) + \Delta\gamma 2U\left(\frac{G + \bar{a}}{2}\right) - 2C_a(\bar{a}) \right] + [1 - h(i)] \left[2U\left(\frac{G}{2}\right) \right]$. The participation constraint (which is also the incentive compatibility constraint in this case) simplifies drastically, as $\underline{a} = 0$, to:

$$h(i^{sb}) \left[U\left(\frac{\bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G + \bar{a}}{2}\right) \right] = C_i(i^{sb}) \tag{16}$$

So the cost equals the expected benefit for the recipient.

A.3 Derivation of Second Best Contract from Section 2.2 Part II

This section deals with the derivation of (15). The donor's welfare function is given by (superscript *sb* for second best)

$$\max_{\bar{a}} h(i^{sb}) \left[2U\left(\frac{\bar{a}}{2}\right) + \Delta\gamma 2U\left(\frac{G+\bar{a}}{2}\right) - 2C_a(\bar{a}) \right] + 2U\left(\frac{G}{2}\right)$$

We know the donor's reservation utility is $W_{HO}^{NA} = 2U\left(\frac{G}{2}\right)$. We can check if this level of aid (\bar{a}) is viable by writing the *donor's* participation constraint:

$$h(i^{sb}) \left[2U\left(\frac{\bar{a}}{2}\right) + \Delta\gamma 2U\left(\frac{G+\bar{a}}{2}\right) - 2C_a(\bar{a}) \right] + 2U\left(\frac{G}{2}\right) > 2U\left(\frac{G}{2}\right)$$

Simplifying this (we know that $h(i^{sb})$ is non-negative) we get:

$$U\left(\frac{\bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G+\bar{a}}{2}\right) > C_a(\bar{a}), \quad (17)$$

From (16) we substitute $U\left(\frac{\bar{a}}{2}\right) + \Delta\gamma U\left(\frac{G+\bar{a}}{2}\right) = \frac{C_i(i^{sb})}{h(i^{sb})}$ into (17), and get the result in the text:

$$\frac{C_i(i^{sb})}{h(i^{sb})} > C_a(\bar{a}^{sb})$$

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