Notes for the lecture on development aid

The overview paper on aid that is on the curriculum (Temple (2010)) covers a lot of ground, but is a bit "fluffy" and is not very analytic, but serves well as background reading. This note will be a bit more focused. We will also go through the paper Clemens et al (2011), which is a theoughtful paper on how to estimate the effect aid has on economic growth.

Development Aid; definitions and numbers.

What it is: Development aid is financial aid given to support the long term development of poor countries. It is different from humanitarian aid which is short term responses to acute crises.

Who gives:

Both governments and non-government organizations (NGOs; Save the Children, Oxfam, Hope, Care...)). The bulk (80 - 85%) of development aid comes from governments (ODA), the rest comes from NGOs.

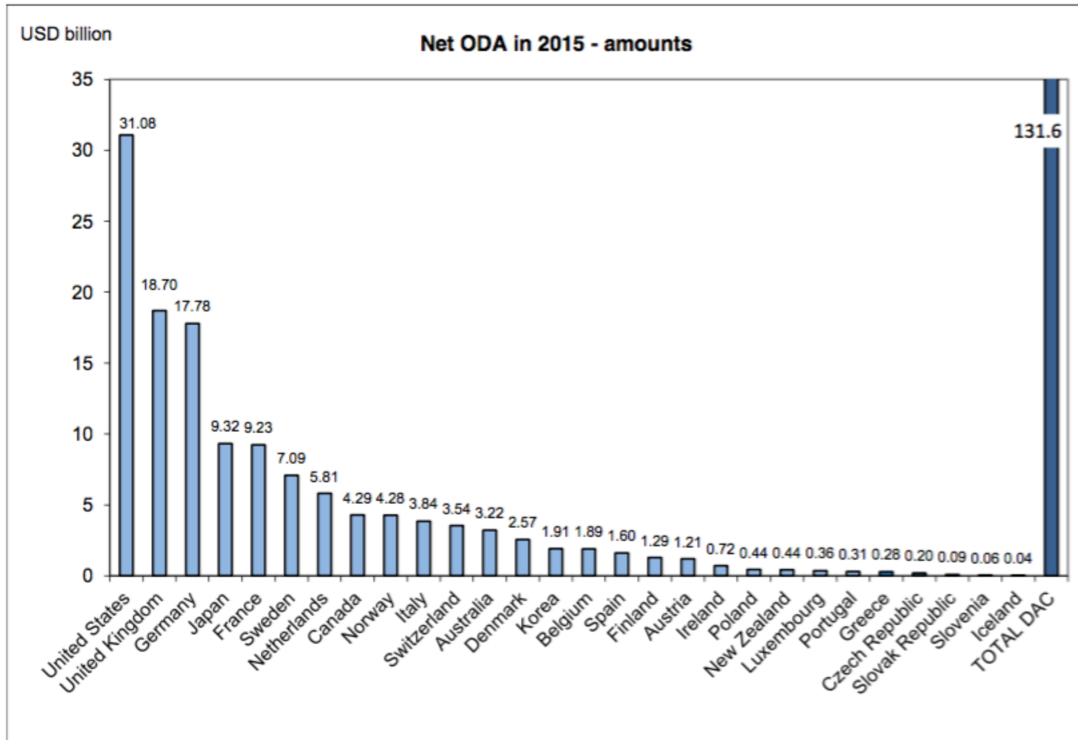
How is it given:

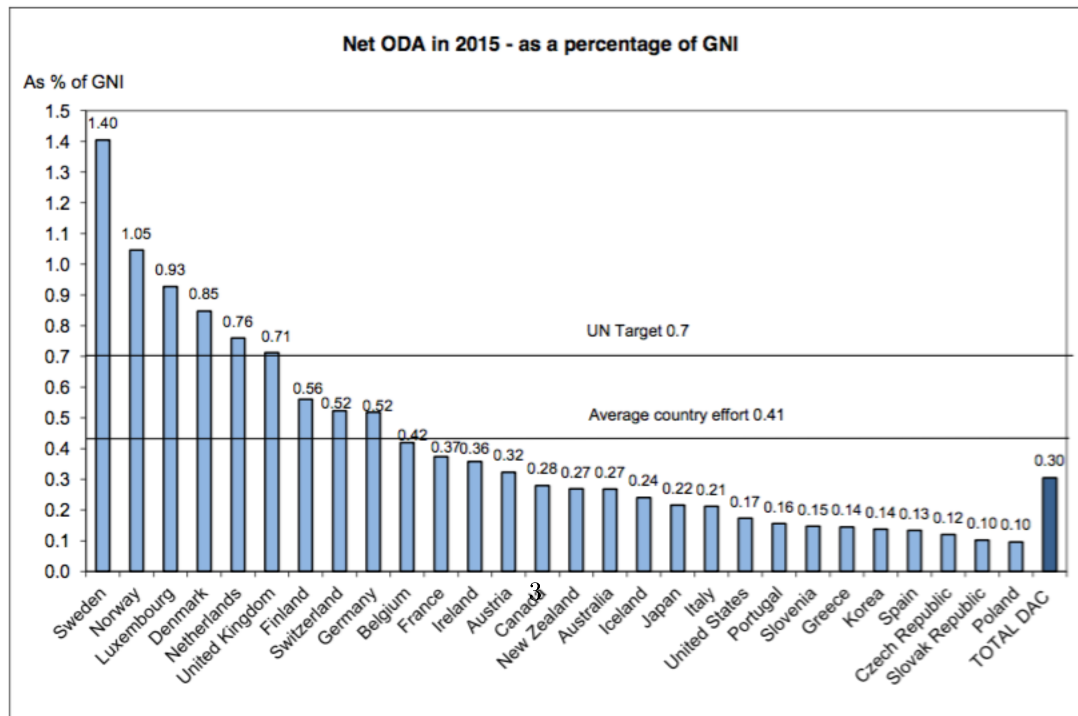
Either bilateral, state to state or the money is channeled through international organizations (World Bank or the UN system). Around 70 % is bilateral the rest is multilateral. Additional important aspects of the disbursement of aid.

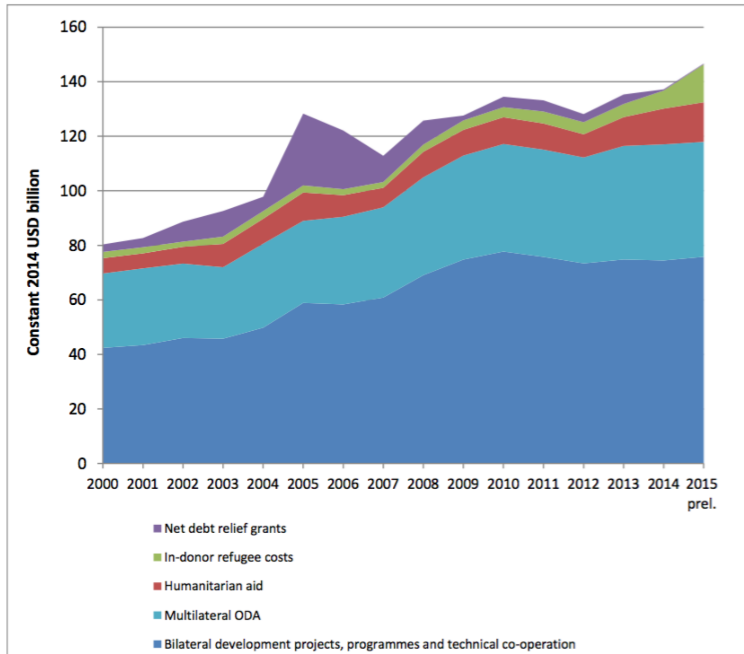
- Targeted: Aid can either be handed over to the recipient government as general budget support, or it can be more targeted. It can be targeted to a be used in a specific sector, like education or health (Program Aid). It can be given to specific projects (Project Aid). It can be given in form of technical assistance in specific projects.
- Tied aid: Tied aid is foreign aid that requires the recipient to buy technical assistance and capital goods in the country providing the aid (the donor country) or in a group of selected countries. Less common than it was before

- Conditional aid: Aid that comes with strings; with an if: You will get $A\$$ if you do (achieve) "x". The old way to provide conditional aid was to make aid contingent on certain reforms the economy in a certain way (typically liberalize the economy, less regulation). Now it is more common to condition aid on good governance measured by more broad performance indicators. It is also more common to involve the recipient government and civil society in setting the conditions for aid. Conditional aid can either be ex-ante or ex-post: To get aid you must first do x (ex-ante). With aid you must do x.

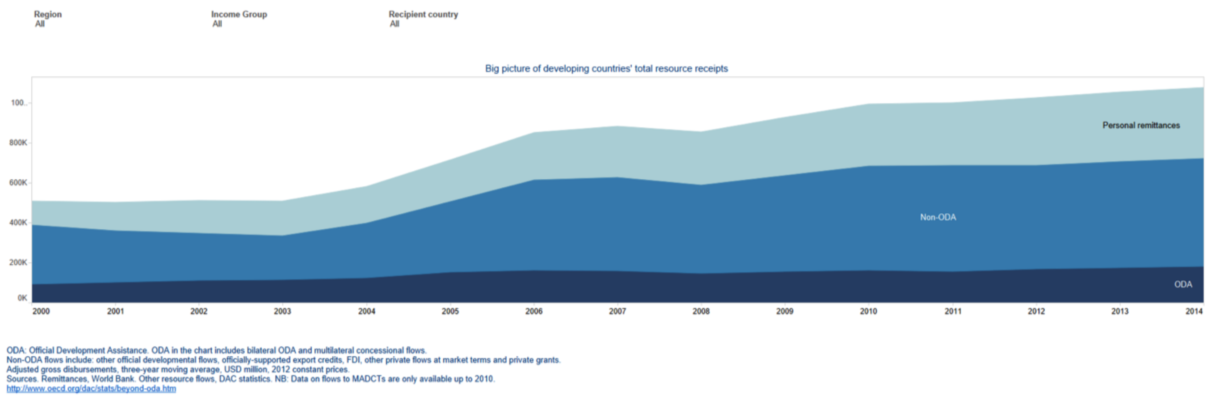
CHART 1: NET OFFICIAL DEVELOPMENT ASSISTANCE FROM DAC DONORS IN 2015
Preliminary data for 2015







Source: OECD, 13 April 2016.



Enough to transform them to middle income countries

Table 15.1 Top ten recipients of net Official Development Assistance (ODA), 2012

Country	ODA/GNI (%)	Country	ODA per capita (current USD)
Solomon Islands	43.6	Tuvalu	2484
Tuvalu	42.3	Marshall Islands	1446
Liberia	36.1	Micronesia, Fed. Sts.	1113
Marshall Islands	34.7	Tonga	746
Micronesia, Fed. Sts.	33.5	Palau	723
Afghanistan	32.8	Kiribati	642
Malawi	28.4	Samoa	639
Kiribati	25.0	Solomon Islands	555
Burundi	21.2	Cabo Verde	498
Sao Tome and Principe	18.7	West Bank and Gaza	495
Memo		Memo	
Low income	8.0	Low income	49
Least developed	6.2	Least developed	49
Middle income	0.2	Middle income	11

Important for low income countries, not for middle income

Kilde: Hagen (2015)

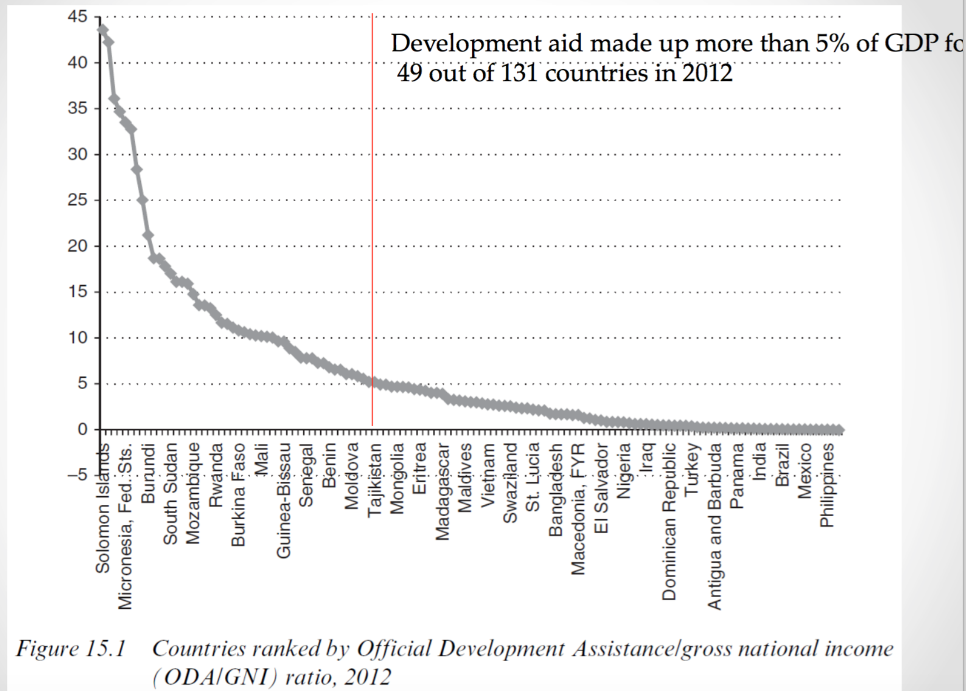
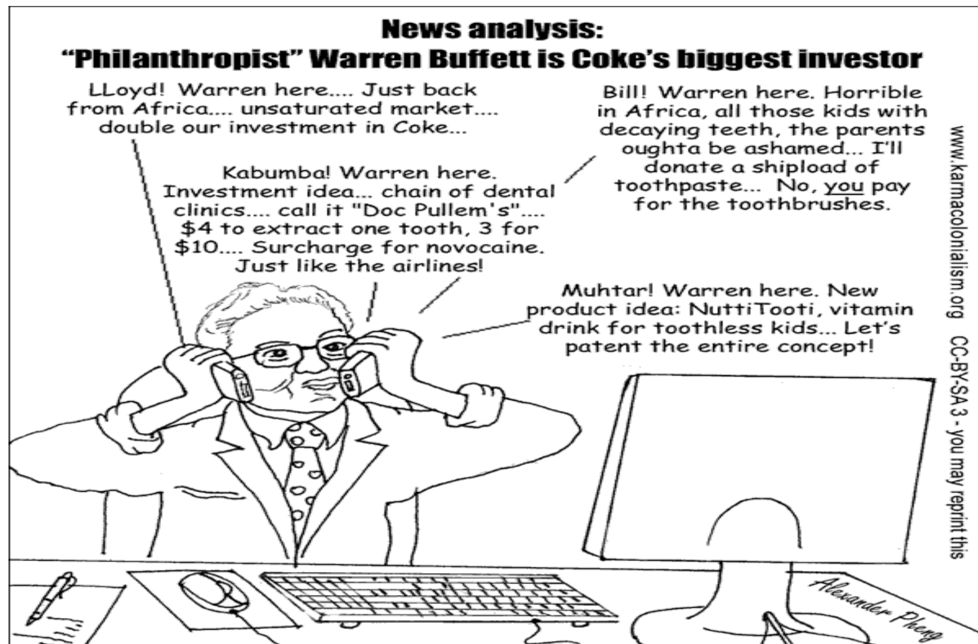


Figure 15.1 Countries ranked by Official Development Assistance/gross national income (ODA/GNI) ratio, 2012

Kilde: Hagen (2015)

Why Development Aid?

Different motivations. Can be (but seldom expressed) self centered; aid is given to build alliances to promote own strategic interests (military - economic). Or aid can given out of more philanthropic, altruistic motivations; to improve the economic and social welfare of individuals in poor countries.



Big push

The notion that poor countries need aid to get the economy going, is related to the poverty trap and big push idea that we will talk more about later. The big push idea is old in development economics, but made a solid comeback with the UN Millennium Project headed by Jeffrey Sachs. The view that we need to "go all in" with development aid to get poor economies out of a poverty trap has been heavily criticized, among the most prominent skeptics is William Easterly.

Aid and growth in a simple linear model (Harrod-Domar model)

Suppose production in period t is given by $Y(t) = \frac{1}{\theta}K(t)$; θ is "capital per unit of output". Assume that capital depreciates at a rate δ and new investments are financed by aid and savings that are proportional to production in the poor country: $K(t+1) = (1-\delta)K(t) + (a+s)Y(t)$. We can then write the growth rate in the economy as $\frac{Y(t+1)-Y(t)}{Y(t)} = g = \frac{a+s}{\theta} - \delta$. If the population grow with a rate n per period growth per capita will be (approximately)

$$g^* = \frac{a+s}{\theta} - \delta - n$$

- According to this model aid can ignite growth; poor countries are not able to save sufficiently to get growth going, foreign aid is needed to buy production capital and create growth.
- If population growth depend on income level, the economy may be trapped in a low equilibrium. Draw a picture to illustrate. Why is temporary aid enough - why do we not need permanent aid to get growth in income per capita.
- In the Solow model production is not linear in capital. That model uses a standard neoclassic production function with decreasing marginal product of capital. Steady state growth is then given by the growth in technology (TFP). Aid used to increase savings (capital investment) will not affect steady state growth, aid can only boost growth rates in recipient countries along transition path to new steady-state. Even though aid does not affect steady state growth in the Solow model, aid will give higher steady-state income by increasing the level of capital per worker.

- With some amendments there can also be poverty traps in the Solow model; One could (along the lines discussed in the Big Push lecture) assume that there is a threshold value of capital that is needed in order to get into another mode of production (modern production). Or one could assume that there are non-linearities in population growth or in savings that may give rise to several steady states.

- A simplification in the Solow model is that the savings rate is given (saving is as a fixed proportion of the income, independent of aid). In reality saving decisions are made by individual households. When savings decisions are endogenous, there will typically be some crowding out - some of the aid will be consumed. Effects in line with Permanent Income Hypothesis A transitory increase in aid will be (almost) fully saved. A permanent increase in aid will be (almost) fully consumed

Does Aid Work?

What is the causal effect of aid. How does development aid affect some outcome y that we care about, for example growth, educational attainment, health outcomes, gender equality, etc. It is naive to compare the outcome for those obtain aid to those who do not obtain aid. To isolate the effect of aid, all other things that influence the outcome we are interested in must be unrelated to whether or not a unit (village, region or country) received aid. In a linear model (OLS) $y_i = \alpha + \beta aid_i + \varepsilon_i$ for β to capture the causal effect of aid we have to assume that $cov(aid_i, \varepsilon_i) = 0$. We have to assume that aid, conditional on all the things we can measure, is randomly assigned to units, that is, we must assume random exposure to aid.

Many research papers try to measure the effect aid has on economic growth. These papers typically use cross country data (sometimes a panel) to estimate if aid increases growth. Even if we include and control for a lot of characteristics, it is of course heroic to assume that there are no unobserved characteristics that correlates with aid. There is an obvious "reverse causality" problem in assessing the effect of aid: those who perform worst in terms of economics receive most aid. Indeed plotting aid against growth (controlling for a lot of factors) there is a negative relationship between aid and growth.

To isolate the effect of development aid several "instruments" that affect aid but not growth. Instruments that have been used is lagged aid and political ties to donors (and size). Weak instruments and the exclusion restrictions does - probably - not hold.

The general conclusion from this literature (see Clemens et al (2012) for a good discussion, a paper we will go through in the lectures) is that development aid have had - if any - only a small positive effect on national growth rates. Why only a small effect - or maybe no effect at all?

Before turning to that question one should reflect on how interesting the average effect of aid is - maybe it is the effect aid have on growth in in particularly adverse areas that is most interesting, and we do expect the effect of aid to be heterogenous (for example it may depend on institutions and governance in the aid receiving country).

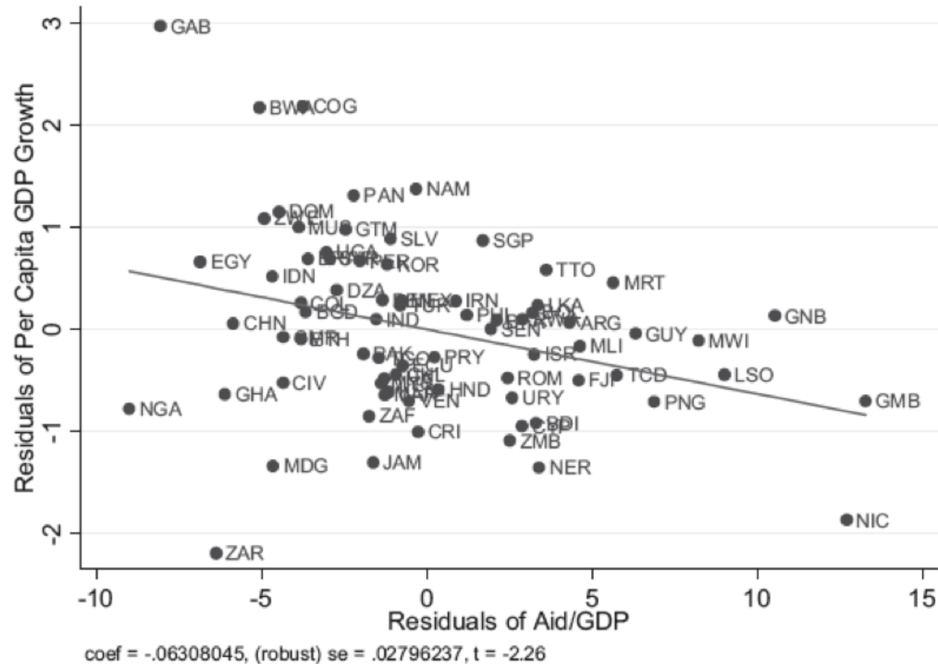
But no or small average effects of aid is certainly relevant and intriguing, especially since at the

TABLE 2.—IMPACT OF TOTAL AID ON GROWTH, OLS ESTIMATIONS
(*DEPENDENT VARIABLE IS AVERAGE ANNUAL GROWTH OF PER CAPITA GDP*)

	(1) 1960–2000	(2) 1970–2000	(3) 1980–2000	(4) 1990–2000
Aid/GDP	−0.063	−0.076	−0.120	−0.008
	(0.028)**	(0.043)*	(0.069)*	(0.048)
Initial per cap. GDP	−1.332	−1.668	−1.632	−1.147
	(0.284)***	(0.317)***	(0.376)***	(0.559)**
Initial level of policy (Sachs-Warner)	1.788	2.278	2.303	−0.159
	(0.431)***	(0.472)***	(0.773)***	(0.551)
Initial level of life expectancy	0.024	0.016	0.063	0.151
	(0.020)	(0.030)	(0.041)	(0.063)**
Geography	0.346	0.386	0.505	0.693
	(0.132)**	(0.179)**	(0.224)**	(0.408)*
Institutional quality	3.944	4.023	1.361	2.951
	(1.490)**	(2.223)*	(2.281)	(3.146)
Initial inflation	−0.003	−0.004	−0.001	−0.001
	(0.002)	(0.003)	(0.002)	(0.000)***
Initial M2/GDP	0.017	0.016	−0.010	−0.003
	(0.010)	(0.015)	(0.023)	(0.014)
Initial budget balance/GDP	−0.007	−0.014	−0.023	0.205
	(0.024)	(0.033)	(0.035)	(0.059)***
Revolutions	−1.261	−1.310	−0.669	−0.491
	(0.506)**	(0.488)***	(0.627)	(0.652)
Ethnic fractionalization	−0.102	−0.391	0.045	1.742
	(0.448)	(0.704)	(0.903)	(1.084)
Observations	74	78	75	70
R-squared	0.77	0.70	0.64	0.63

All standard errors are robust and reported below coefficient estimates. ***, **, and * denote significance at 1%, 5%, and 10%, respectively. All specifications include dummies for sub-Saharan African and East Asian countries. For descriptions of the variables and their sources, see appendix A. The sample decreases for the 1980–2000 and 1990–2000 time periods because data on budget balance become sparser for the 1980s and 1990s, so the initial value of budget balance cannot be computed for these periods. Outliers are excluded based on the Hadi (1992) procedure on the core IV specification in table 4, which results in two countries being dropped from the 1980–2000 horizon in all the results that are presented.

FIGURE 1.—CONDITIONAL CORRELATION BETWEEN GROWTH AND TOTAL AID, 1960–2000



The figure plots the relationship between growth and actual aid, conditional on all the covariates. The slope of the line is the coefficient on aid in the OLS regression in column 1 of table 2.

micro-level aid seem to work; when individual development projects are evaluated, they are often deemed successful. Hence there appear to be a micro - macro paradox in development aid, first pointed out by Mosely 1987). So again; Why?

- Inadequate evaluation at the micro level. Evaluation often done by aid agencies that have vested interests in finding and presenting success stories. Another point is that the success criteria is not nessecerly more economic activity. These other criteria can be relevant and important; better social protection, better health etc. Or they can be less relevant: That the money are spent. In addition to all this it is of course also difficult to estimate the causal impact of aid at the micro level. One reason for that is fungibility of aid.

- Fungibility. The problem is a special version of a generic problem for impact assessment: If a program P^D (a treatment) has general equilibrium effects it is hard to estimate the effect of P^D. With fungibility the problem is that aid may crowd out internal policy, that is, the recipient government will reallocate its budget and use money differently when P^D is implemented. Let us assume that the the recipient uses the money that it would have used on P^D on a program P^G. It may very well be that P^D has a positive effect on economic activities (it is an important infrastructure program), but P^G (a more marginal infrastructure program, or an air plane to the president) have a much smaller effect on the capacity to produce goods and services.

Incentive problems in development aid

The fungibility of development aid is an example of a more general problem: It is not easy to specify how the recipient government - a sovereign state – will spend the money they receive in development aid, and they may have different priorities than the donor.

But cannot donors give aid with strings attached? Can they not provide conditional aid? The most extreme version would be an aid contract that specifies how the recipient country should spend the money they receive. There are several potential problem with this solution, and conditional

aid has been highly disputed. It has been claimed (a discussion in the 70 and 80ties) that donors (the world bank and the IMF) would through aid conditionalities force market liberal (ideology) conditions on donor countries. Policies that were not democratic grounded internally in the recipient country. That did not fit the situation the country faced ((one size fits all) . This top down attitude may also decrease the will recipients have to adhere to the policy requirements. There was a shift in ideology towards more locally grounded conditionality (what we (as recipients) want to achieve with development aid) in the beginning of this century.

Another problem with conditionality is that the conditions are not credible. An aid contract is an illusion since there is no third party to enforce such a contract.But what about a more informal dynamic contract where the donor threatens that "you will not receive more funds unless you do as told". Is that credible? Often not, and the credibility problem is especially relevant for altruistic donors. This is known as the Samaritans Dilemma (those who want to read more on this can consult Svennson (2000), Hagen (2006) or Torsvik (2005). Here is a toy model that can be used to illustrate some of the incentive issues.

A sketch of a Model, and some questions

There is a donor and a recipient. The donor has a fixed budget M that can be consumed domestically C or be given in aid a to a recipient poorer country: $M = C + a$. In the recipient country there are two groups (assumed to be of equal size here); the poor and the rich. The government in the recipient country can tax the rich with an amount t per individual and transfer to the poor, we allow t to be negative. The donor can target support to the poor in recipient country. Hence the consumption of the poor and the rich in the recipient country is $c_p = I_p + t + a$ and $c_r = I_r - t$.

Suppose the donor only cares about the poor in the recipient country and has a welfare function that is given by $U(C, c_p)$ which is increasing and concave in both arguments. Suppose that the recipient government care both about the rich elite and the poor in the poor country and that their preferences can be represented by $u(c_p, c_r)$ that is increasing and concave in both arguments and have $u'_{c_i} \to \infty$ if $c_i \to 0$. Here are some questions that you should try to answer (will be covered in

a seminar).

- In absence of aid what is the condition for the recipient government choosing $t > 0$.
- How would a optimal aid contract look like if it could be enforced? Would it increase the consumption of the poor by more than the external aid?
- Show that without a contract, aid given to the poor in the poor country will be partly offset by domestic policy.
- Show that if the recipient country chooses t before the donor chooses a it will choose a lower t than if they make decisions simultaneously.
- Will it help if the donor country declares that it will only help poor countries that do lower t to attract more aid? Why not? Explain why this situation is a bit like a situation where a government has declared that it will not rescue individuals who take excessive risk, or will never pay to ransom to kidnappers.

References

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