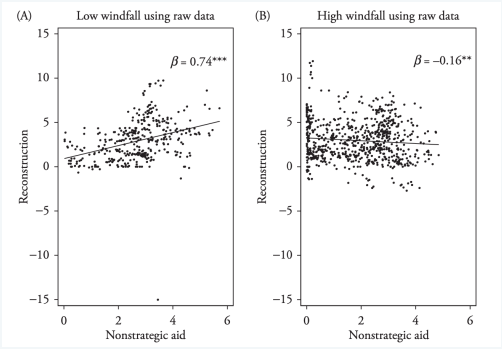
The aid-development relationship revisited: an explanation from windfalls

Kaicheng Lu
kaicheng.lu.20@ucl.ac.uk

Introduction & motivation

Questions to be answered:

- **What is the motivation of offering aid?** People from donor countries are convinced that foreign aid is a "'good-in-itself' and the more of it the better", while they lack the understanding of the reasons for this activity. (Huntington, 2010)
- **How will aid effectiveness depend on the amount of natural resources owned by the recipients or their strategic importance?**
  - These factors can be considered as windfalls (Geriod, 2015), as they can yield economic rents and attract supports from other countries.
  - Windfalls can lead to aid being less effective, as recipients may lack the incentive to meet donor expectations due to the presence of other sources of income and the fact that donors will continue supporting the recipient no matter whether the aid is used wisely. Therefore, windfalls can be a form of "resource curse" in the context of aid.
  - Example: The construction of the Chad-Cameroon oil pipeline was heavily funded by the World Bank. However, the oil revenues received by the Chadian government was then diverted to arm purchases instead of poverty reduction. (Djankov et al., 2006)
  - This general pattern is observed in data:



source: Geriod (2015). The y-axis is the inverted annual percentage change in infant mortality

  - However, we also observe growth winners and losers among countries endowed with resources (Mehlum et al., 2006), and it is likely that the winners don't need the aid.
  - As in the oil pipeline example, there can be information asymmetry between donors and recipients

Identifying aid-development relationship with cross-country regressions

If we wish to understand the relationship between aid and various aspects of development using cross-country regressions, they can be less informative than expected as a result of:

- Aid taking a long time to influence indicators of development (Clemens et al., 2012), and they don't necessarily affect all areas of development.
- Level of aid being endogenously determined. As aid is more likely to be requested when an economy is in trouble or is faced with a negative shock, aid should be negatively related to development under the null hypothesis (Rodrik, 2012). In addition, the effect of aid can be at least partially offset by the shock, leading to underestimates in its effectiveness

Conclusion

The adverse selection model explaining self-selection & donor's behaviour

Model Setup

- There are only two types of countries in a hypothetical world: type A and type B.
- Countries in groups A and B are similar in all aspects related to their potentials to prosper, such as their levels of governance and citizens' education and health levels. Thus, it can be assumed that each country in groups A and B have "quality" α and β respectively that are uniformly distributed on the same interval [0, 1]. Here, 0 is the worse and 1 is the best possible quality.
- Countries are grouped into types A and B by their levels of windfalls. We assume that type A and B countries are endowed with windfalls $\varepsilon\alpha^2$ and β^2, respectively, with $\varepsilon > 1$. The "quality" of countries, which can be correlated with the level of public service provision, are related to the level of windfall.
- The model assumes that offering support through foreign aid disbursements buys support from recipient countries, allowing the donor to enjoy a fraction of their windfalls. We assume that donors wish to take δ and γ percent of windfalls from type A and B countries, respectively.
- Donors can see whether the recipients are in groups A or B, but cannot observe the quality of a particular country as a result of information imperfections. Hence, they can only decide on a single level of aid v for countries in group A and u for those in group B.

Recipient's choice

- Prospective recipients of aid can have 2 options:
  1. Accept the aid and not being able to enjoy windfall rents immediately as a result of the condition attached to aid or a relaxation of urgency to build up institutions capturing the windfall rents (Nino and Billon, 2014)
  2. Don't accept the aid and enjoy the windfall rent
- Therefore, payoffs of recipients choosing option 1 are:
  - v if they are in group A
  - u if they are in group B
- And payoffs of choosing option 2 are:
  - $\varepsilon\alpha^2$ if they are in group A , $\varepsilon > 1$
  - β^2 if they are in group B
- Hence, prospective recipients accepts the aid if and only if:
  - $v > \varepsilon\alpha^2; u > \beta^2 \Rightarrow \alpha < \sqrt{\frac{v}{\varepsilon}}; \beta < \sqrt{u}$
  - If $v = u$, countries in group A (with more windfalls) that are willing to accept the aid will be of worse quality, which might stem from the fact that they have worse governance or less public services.
  - Hence, the observation that ***aid is less effective in regions with high windfalls can be explained by the recipients' self selection***

Donor's utility maximisation problem

Donors would wish to maximise their payoffs by selecting the amount of aid offered to countries of different types:

$$\max_{v,w} \pi = \int_0^{v^{1/2}} (\delta\,\varepsilon\,\alpha^2 - v)d\alpha + \int_0^{w^{1/2}} (\gamma\,\beta^2 - w)\,d\beta$$

Solving for π and finding first order conditions with respect to v and w gives

$$\delta = \frac{3}{2}, \gamma = 3$$

Hence, ***the percentage of windfall that the donors wish to take is lower in high windfall countries and is independent of ε***. This can be attributed to the fact that development aid can be an inefficient way to buy support, as both the donor and the recipient can be disappointed by the result of aid. (Morgenthau, 1962)

The relationship between aid and development is ambiguous, and attempts to study them using cross-country regressions may fail due to time lags, reverse causality and endogeneity. This poster presents an adverse selection model to demonstrate that the self-selection of the recipients can explain heterogeneity in aid effectiveness for countries with different levels of windfalls. In particular, countries with high windfalls that are willing to accept aid can be of worse quality than their counterparts with less windfall, leading to the observation that nonstrategic aid is less effective in countries with high windfalls. In addition, the donor's utility maximisation problem shows that the donors are not interested in the recipient's windfalls in the framework of aid due to the fact that foreign aid aimed to promote development can be inefficient in buying political support.

Bibliography

- Clemens, M.A., Radelet, S., Bhavnani, R.R. and Bazzi, S., 2012. Counting chickens when they hatch: Timing and the effects of aid on growth. *The Economic Journal*, *122*(561), pp.590-617.
- Djankov, S., Montalvo, J.G. and Reynal-Querol, M., 2006. Does foreign aid help. *Cato J.*, *26*, p.1.
- Girod, D., 2015. *Explaining post-conflict reconstruction*. Oxford University Press.
- Huntington, S., 2010. *Foreign Aid: For What and for Whom*. [online] Foreign Policy. Available at: <https://foreignpolicy.com/2010/12/30/foreign-aid-for-what-and-for-whom/> [Accessed 26 February 2022].
- Mehlum, H., Moene, K. and Torvik, R., 2006. Institutions and the resource curse. *The economic journal*, *116*(508), pp.1-20.
- Morgenthau, H., 1962. A political theory of foreign aid. *American Political Science Review*, *56*(2), pp.301-309.
- Pérez Niño, H. and Le Billon, P., 2014. Foreign aid, resource rents, and state fragility in Mozambique and Angola. *The ANNALS of the American Academy of Political and Social Science*, *656*(1), pp.79-96.
- Rodrik, D., 2012. Why we learn nothing from regressing economic growth on policies. *Seoul Journal of Economics*, *25*(2), pp.137-151.