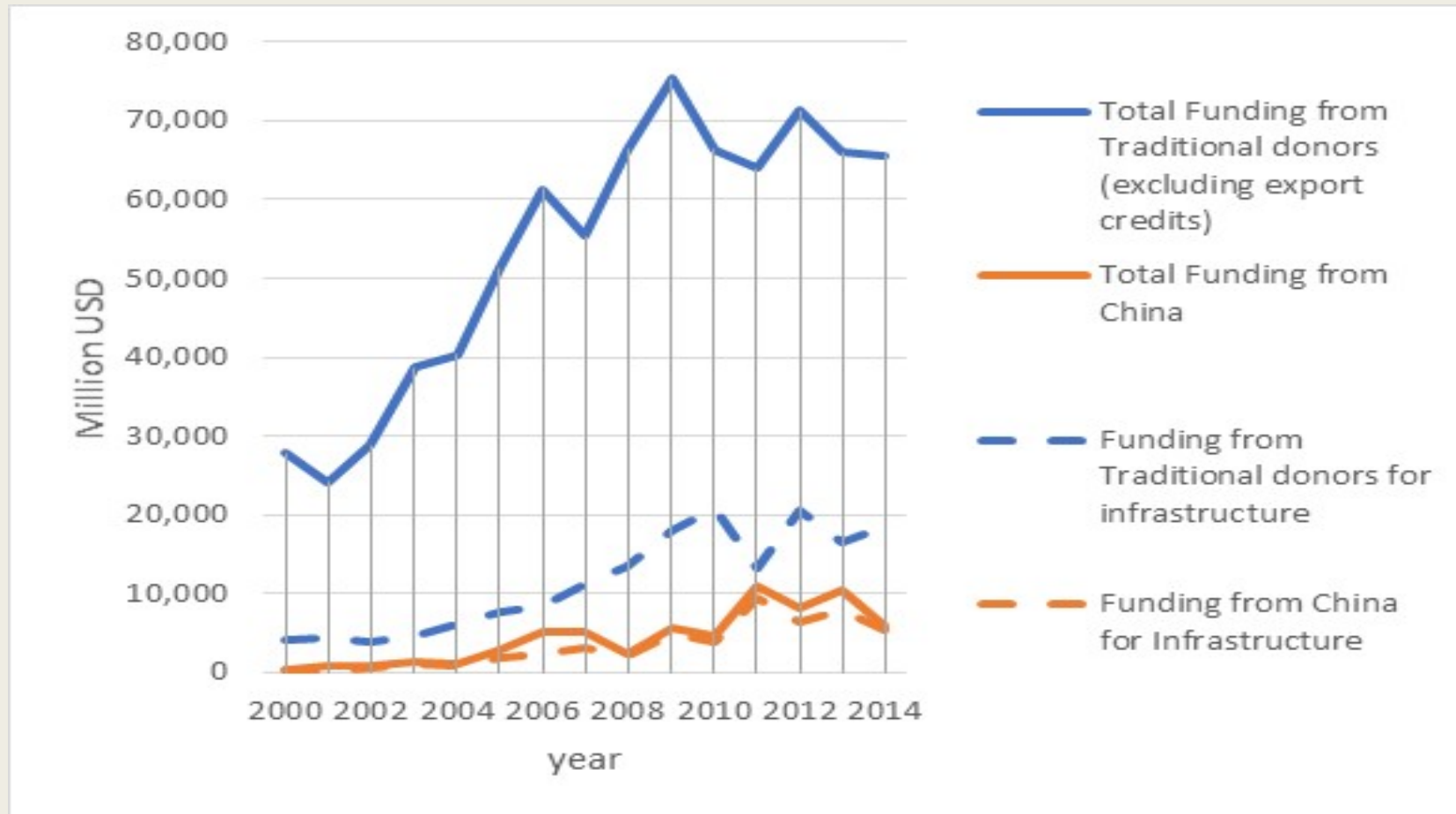


THE IMPACTS OF FOREIGN PUBLIC FUNDING ON AFRICAN DEVELOPMENT: A COMPARATIVE STUDY ON TRADITIONAL DONORS AND CHINA

Marta Marson and Ivan Savin



Official Funding to Africa



Motivation

- Long discussion of the impact of aid in developing countries, particularly in Africa
 - *Results mixed (Sachs 2005, Easterly and Williamson 2011, Moyo 2009)*
 - *Few studies on official funding from China*
- Since recently data on Chinese funding available at <http://china.aiddata.org/>
- We look on the impacts of funding from China vs traditional donors
 - *governance,*
 - *infrastructure,*
 - *dependence on natural resources*
 - *external debt*
- We also look at the interaction between the two donors

OUTLINE

- Motivation
- Literature Review & Hypotheses
- Data & Empirical Strategy
- Preliminary Results
- Conclusion

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Literature review: impact of aid on development

- Okada and Samreth (2012) and Mohamed et al (2015) demonstrate aid reducing corruption
- Donaubauer et al. (2016) show that aid targeted at infrastructure increases the recipient's endowment of infrastructure and attracts FDI inflows
- Arndt et al. (2015) identify a positive impact of aid on growth, through human and physical capital accumulation
- Bjørnskov and Schröder (2013) aid negatively affects debt service and indebtedness by undermining their repayment incentives.

Literature review: „rouge donor“ hypothesis

- Naim (2007) conjectures flows are driven not by the needs of the recipient countries, but by national interests of China.
- Motivations for funding
 - *similar motives for allocation of funding to Africa between China and traditional donors (Dreher et al 2011, Dreher and Fuchs 2015, Broich 2017)*
 - *little evidence of “imprudent lending” to debt relief beneficiaries (Reisen and Ndoye 2008)*
- Effects of funding on GDP
 - *OF from China - positive effect on economic performance, but not from World Bank (Dreher and Lohmann 2015)*
 - *Dreher et al. (2017) finds ODA from China and traditional donors positive for GDP growth in African countries, but not OOF*
 - *Wako (2018) finds overall positive effect of aid from China and some DAC donors on GDP but a negative on civil liberties and political rights (negative for GDP in the long run)*

Literature review: interaction of multiple donors

- Lack of coordination increases transaction costs preventing optimal allocation of aid across countries (Bigsten and Tengstam 2015)
- The need of coordination among donors can force coordinating donors to give up some political power over the recipient country itself (Bourguignon and Platteau 2015).
- The presence of multiple donors opens up opportunities to access finance and increase bargaining power of recipient countries (Reisen 2007, Greenhill et al. 2016, Prizzon et al. 2017)
- Hernandez (2017) World Bank in Africa delivers loans with fewer conditions to recipient countries assisted by China

Hypotheses

- *Hypothesis 1:* OF from China and traditional donors has similar impact on
 - *governance*
 - *infrastructure*
 - *dependence on natural resources*
 - *external debt sustainability*

- *Hypothesis 2:* Joint presence of traditional donors and China produces synergy effect on development

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Data

- We concentrate on the period 2000-2014 in Africa (53 countries)
 - *Taking ODA and OOF together (OF) from China and traditional donors*
 - *Funding is taken as percentage of GDP*
 - *Within those flows we distinguish specifically infrastructure projects*
 - *extrapolate money flows from China assuming that aid projects take two years on average (three for infrastructure)*

- Data sources include:
 - *aiddata.org*
 - *World Bank (WGI, natural resources rents, external debt stock)*
 - *African Development Bank (AIDI)*
 - *UNCTAD (Primary commodities export)*
 - *OECD (OF from DAC donors and main multilateral donors)*
 - *Berne Union (DAC export credits)*

Empirical strategy

Estimate the equation

$$Y_{i,t} = \alpha + \gamma_0 Y_{i,t-3} + \gamma_1 \sum_{p=1}^3 OF_{i,t-p}^{CHINA} + \gamma_2 \sum_{p=1}^3 OF_{i,t-p}^{TRAD} + \gamma_3 \sum_{p=1}^3 OF_{i,t-p}^{CHINA} \sum_{p=1}^3 OF_{i,t-p}^{TRAD} + \beta X + \mu_i + \varepsilon_{i,t}$$

- Y_{t-3} is included to limit omitted variable bias
- μ_i - country FEs
- 1:3 - „cumulated“ lag order to account for the effect of OF on Y_t (and reduce reverse causality)

Use Quantile Regression:

- differentiate effect of aid conditional on the performance (non-linearity)
- suitable in case of fat tails and little persistence in performance
- FE-adjusted quantile regression estimator developed in Canay (2011) ¹²

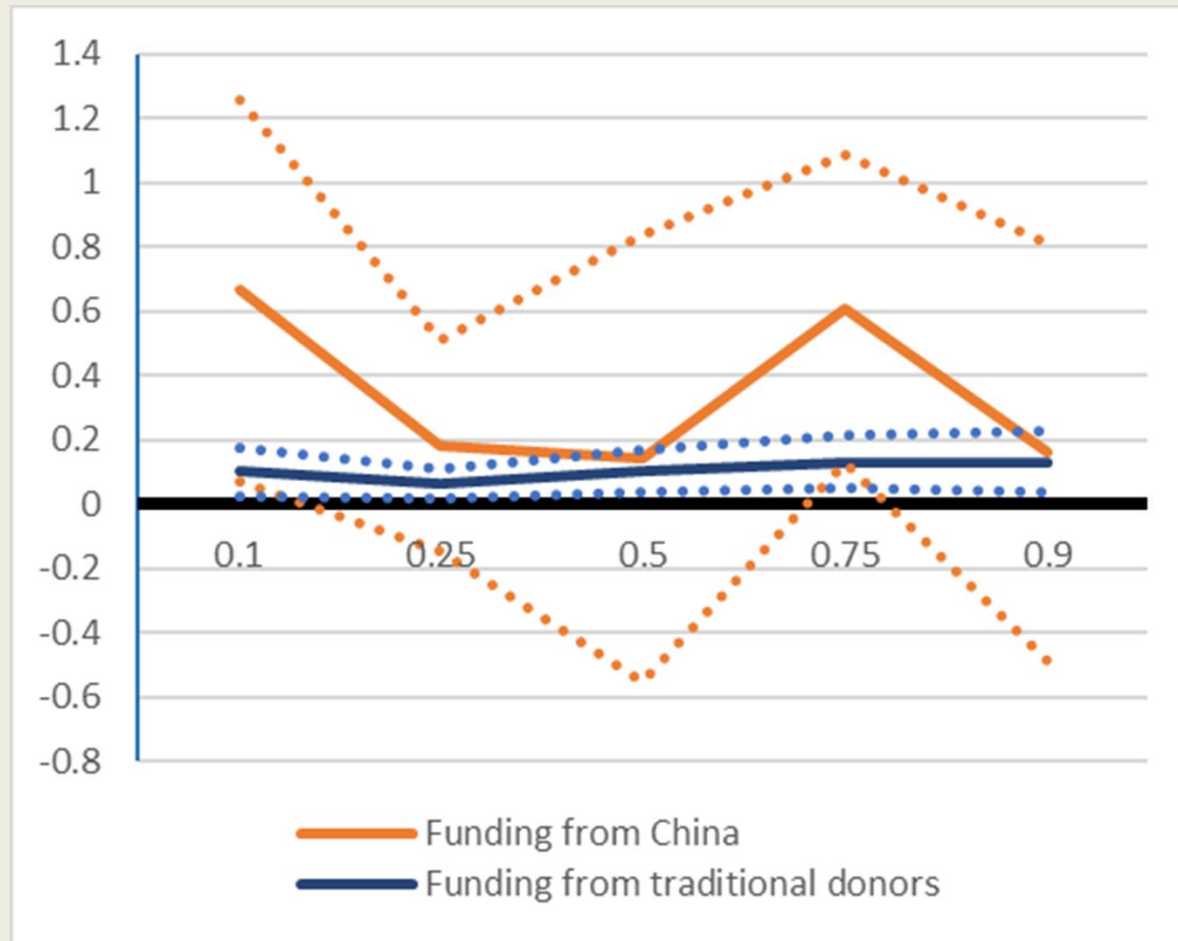
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Impact on governance (median QR)

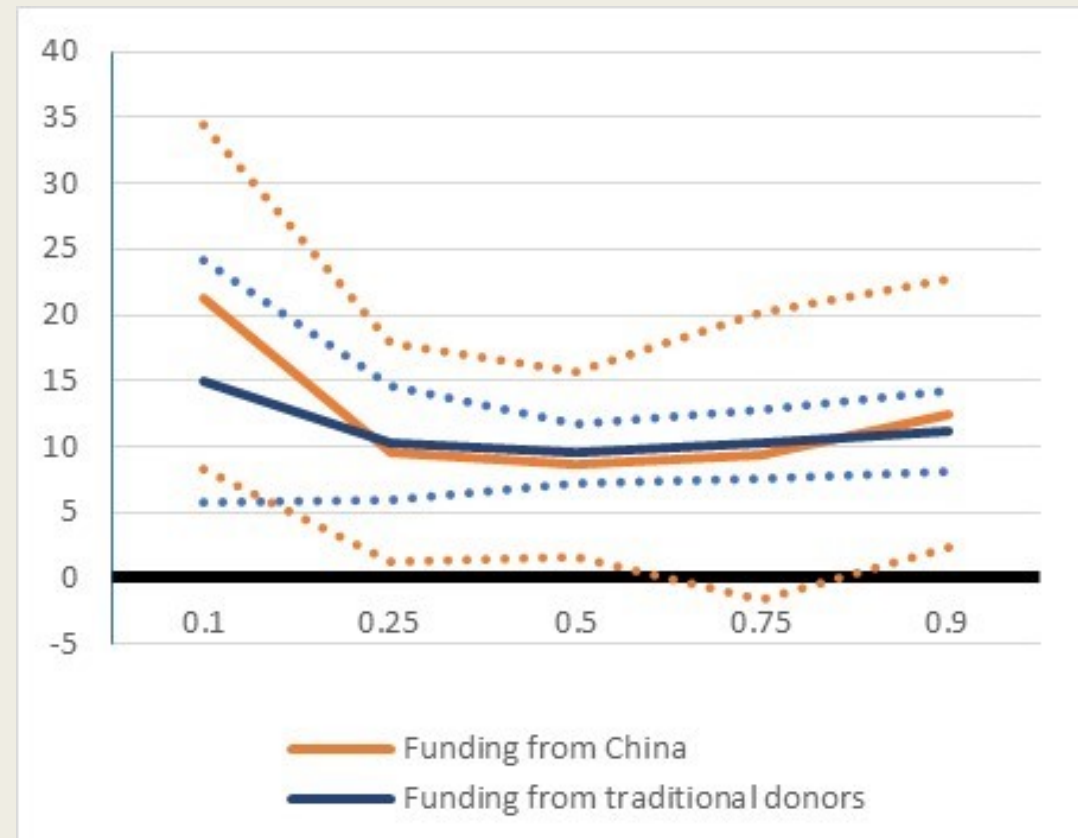
	Governance	Corruption	Political stability no violence	Rule of Law	Government Effectiveness	Voice and accountability	Regulatory quality
Lagged dependent variable	0.70***	0.42***	0.46***	0.57***	0.50***	0.63***	0.63***
Chinese funding	0.40	0.52	0.80	0.82*	1.20***	0.47	-1.08**
Traditional donors funding	0.11***	0.10**	0.29***	0.03	0.10**	0.08*	0.05
Interaction	-1.07	-0.45	-2.38	-0.10	-1.27	-1.81*	1.01
GDP growth	0.44***	0.27***	0.52***	0.50***	0.42***	0.14	0.44***
GDP per capita	17.88***	20.94***	53.85***	21.67***	15.10***	-0.95	22.85***
Natural resources rents	-0.004***	-0.004***	-0.006***	-0.006***	-0.006***	-0.003***	-0.004***
Constant	-0.71***	-0.72***	-0.98***	-0.85***	-0.83***	-0.36***	-0.76***
Pseudo R2	0.60	0.32	0.42	0.53	0.43	0.30	0.50
Observations	556	566	565	565	565	565	565
Groups	53	53	53	53	53	53	53

Impact on governance accross quantiles



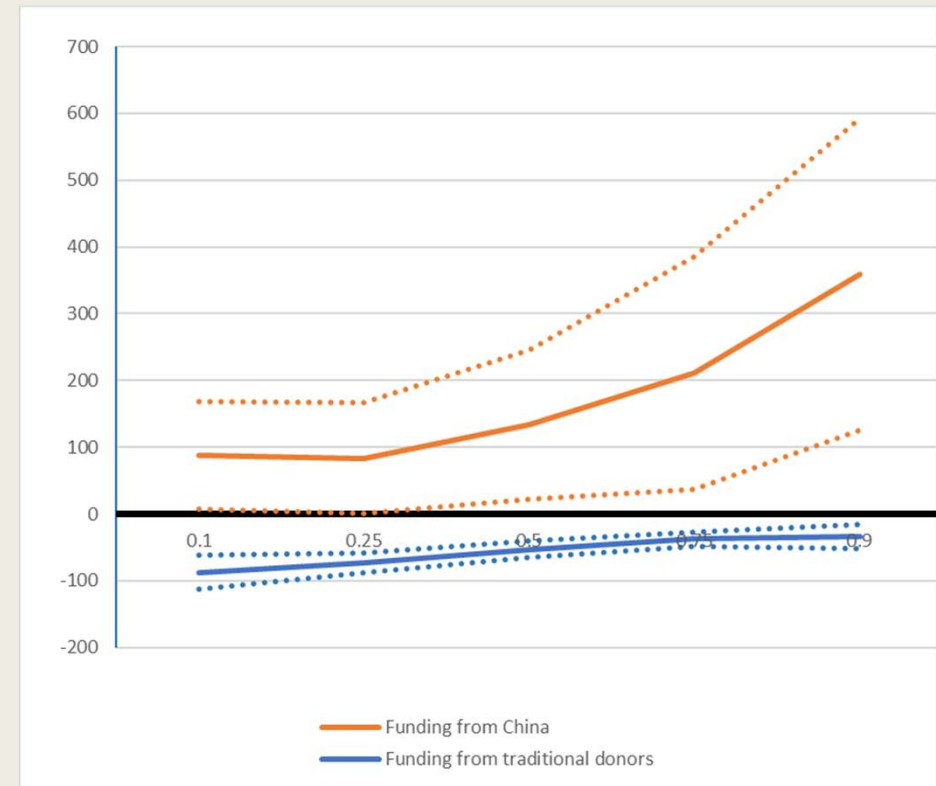
Impact on infrastructure

	Infrastructure index change
Lagged dependent variable	0.16
Chinese infrastructural funding	8.70**
Traditional donors infrastructural funding	9.47***
Interaction	-90.60
Governance	-2.21***
Rural population %	-33.73***
Constant	20.25***
Pseudo R2	0.82
Observation	407
Groups	52



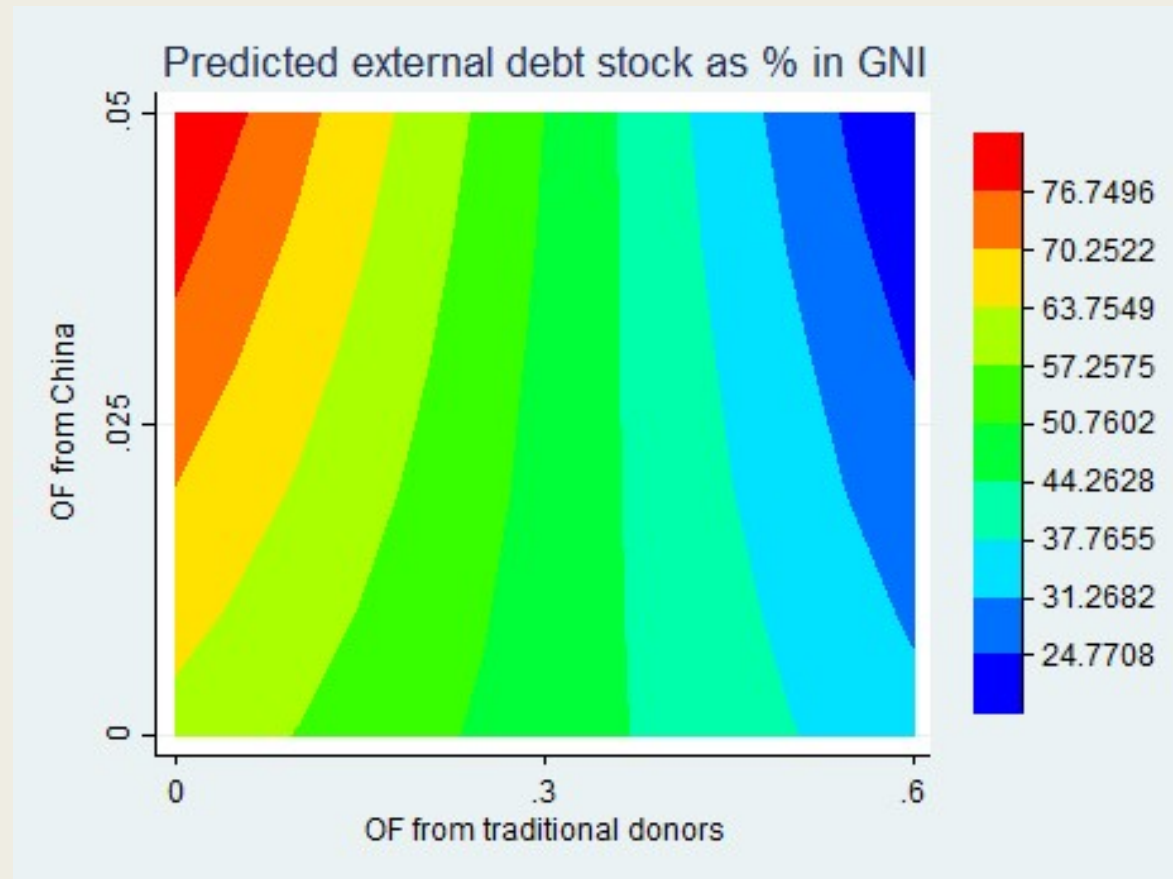
Impact on external debt

	External debt
Lagged dependent variable	0.40***
Chinese funding	430.40***
Traditional donors funding	-47.13***
Interaction	-1223.20***
Governance	-2.48
GDP growth	-54.98***
Trade balance	-0.40***
GNI	-0.00***
Constant	90.16***
Pseudo R2	0.57
Observation	445
Groups	45



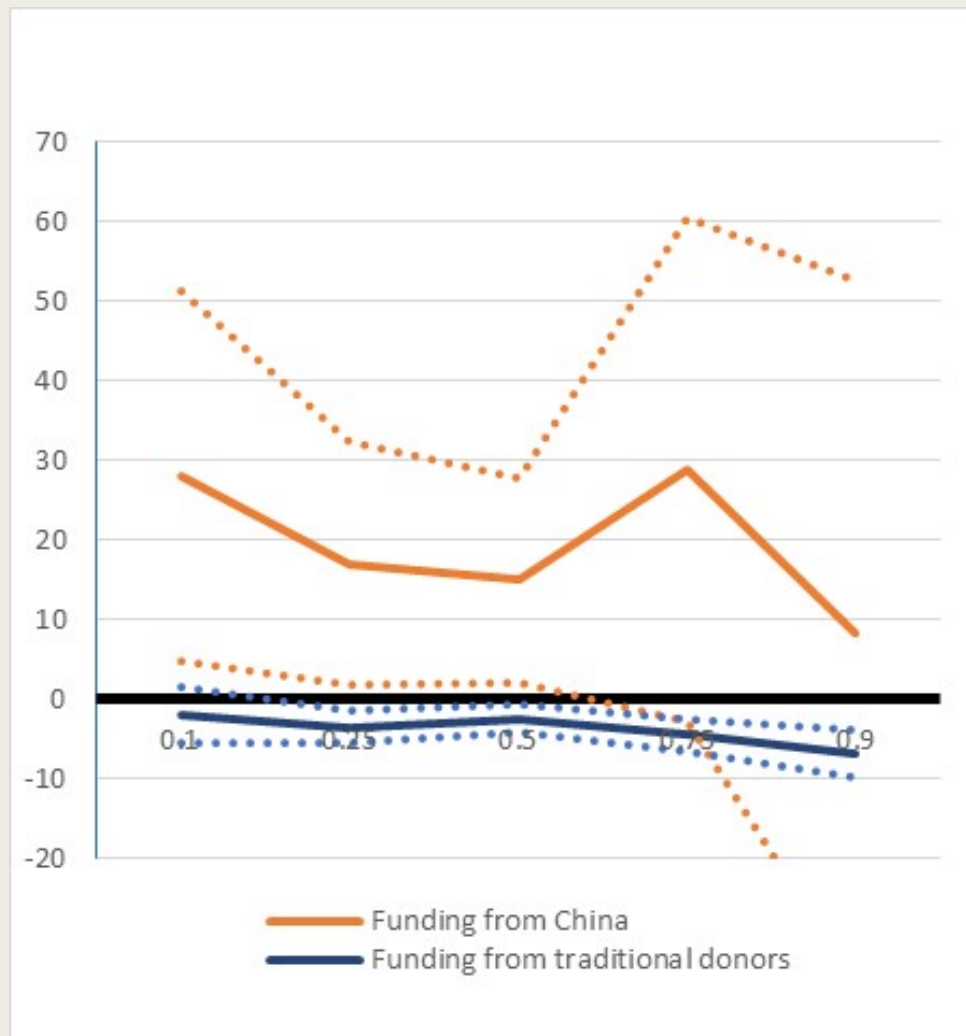
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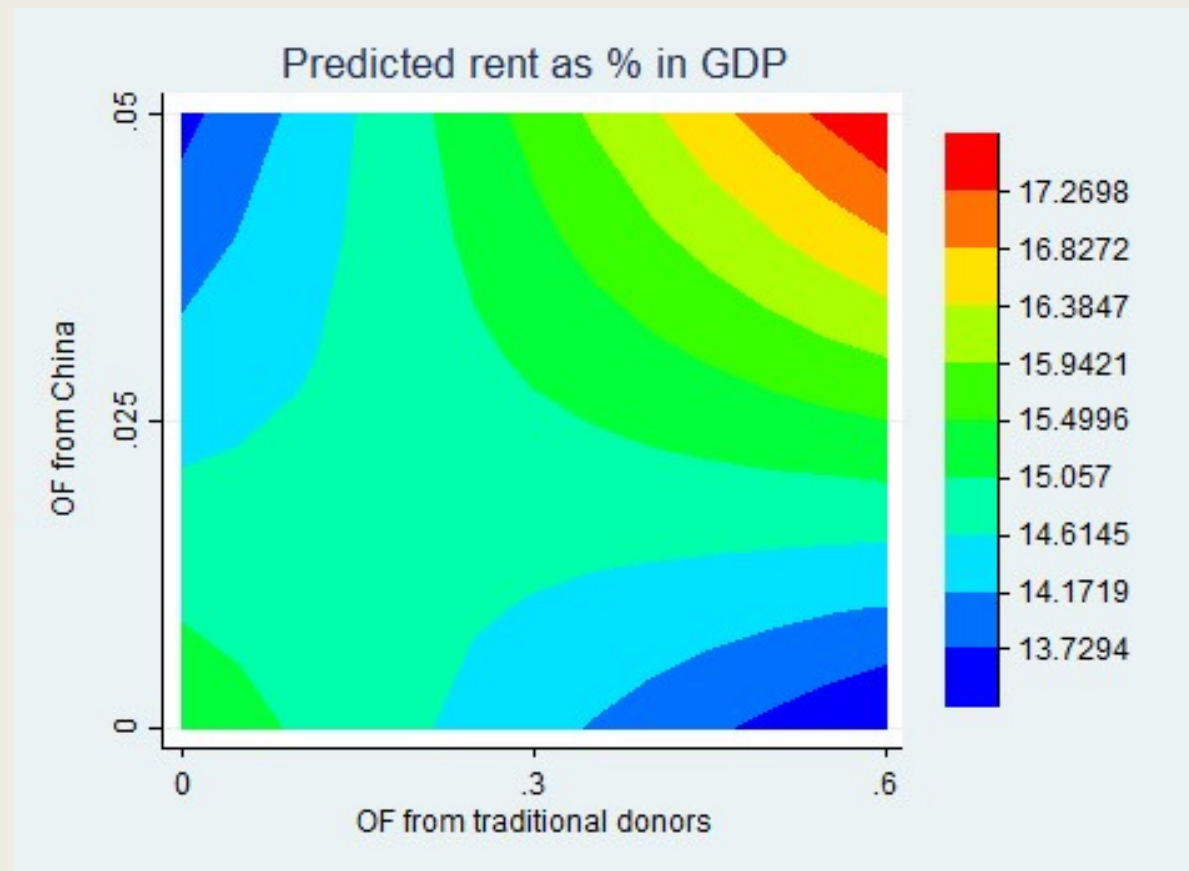
Impact on natural resources rents

	Natural resources rents
Lagged dependent variable	0.22***
Chinese funding	-35.06***
Traditional donors funding	-3.45***
Interaction	205.95***
Governance	-3.07***
Population	-2.96e-07***
Gross fixed capital formation	-0.11***
Constant	16.41***
Pseudo R2	0.53
Observation	412
Groups	46



Impact on natural resources rents

	Natural resources rents
Lagged dependent variable	0.22***
Chinese funding	-35.06***
Traditional donors funding	-3.45***
Interaction	205.95***
Governance	-3.07***
Population (million)	-0.3***
Gross fixed capital formation	-0.11***
Constant	16.41***
Pseudo R2	0.53
Observation	412
Groups	46



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Conclusion

- Hypothesis I partially supported:
 - *Infrastructure and governance: at least qualitatively similar impact of funding from China and traditional donors*
 - *Natural resources dependence and external indebtedness: different impacts of funding from China and traditional donors*
- Hypothesis II supported:
 - *For debt more opportunities translate in better outcomes*
 - *For natural resources rents the opposite holds.*
 - *Recipient countries with more “policy space” (ownership and alignment to their priorities) may not pursue the expected strategies*

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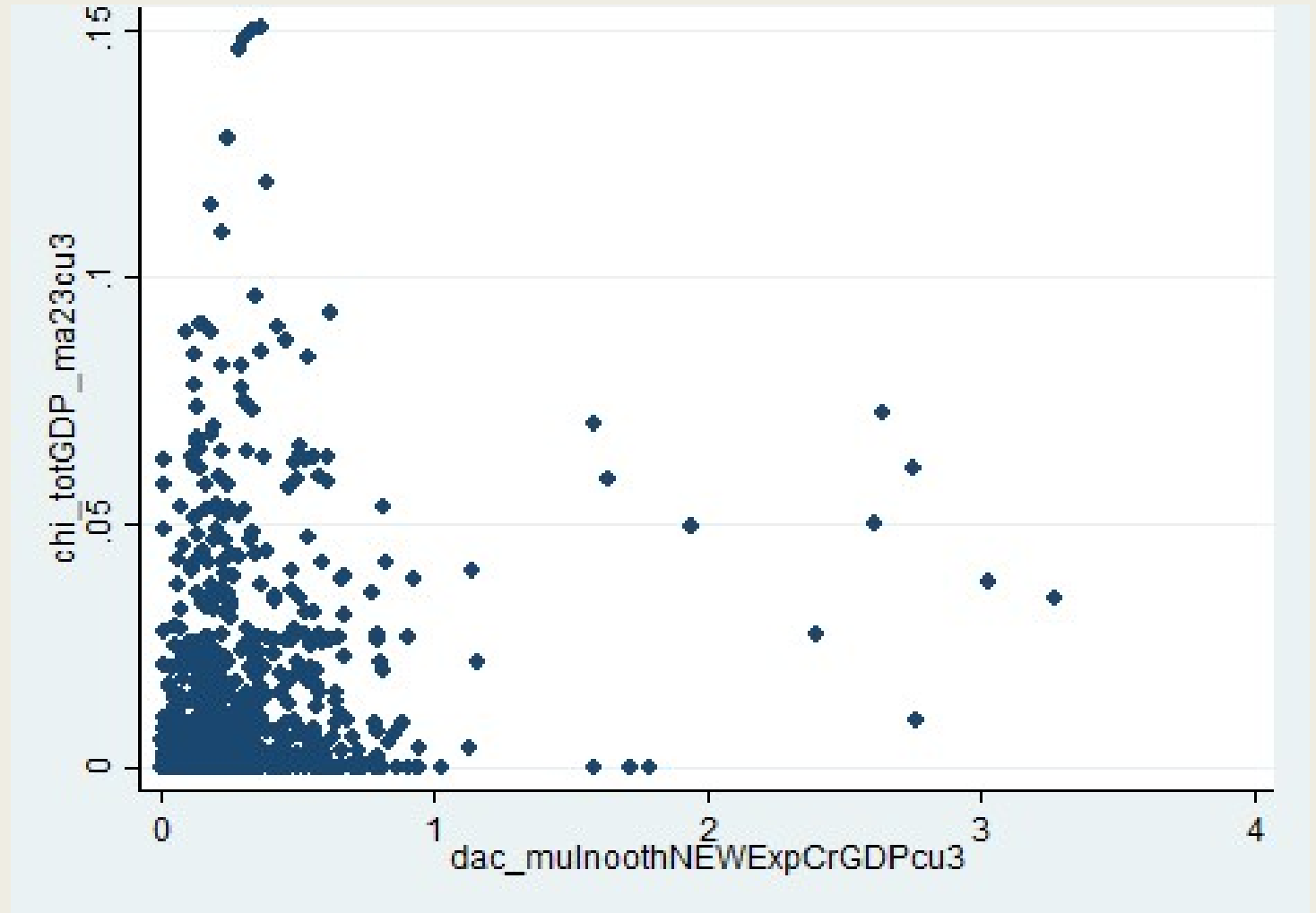
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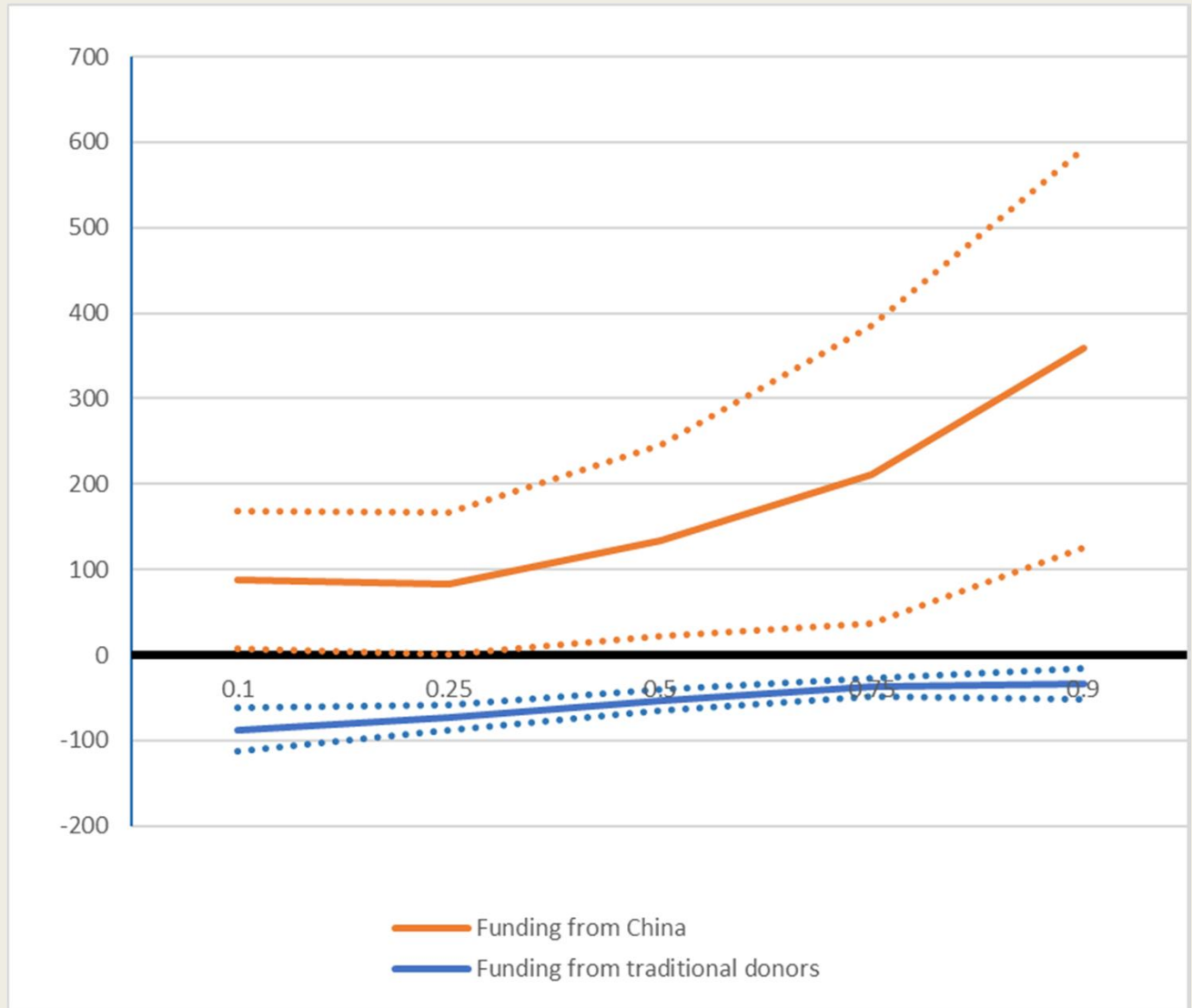
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Wgi definitions

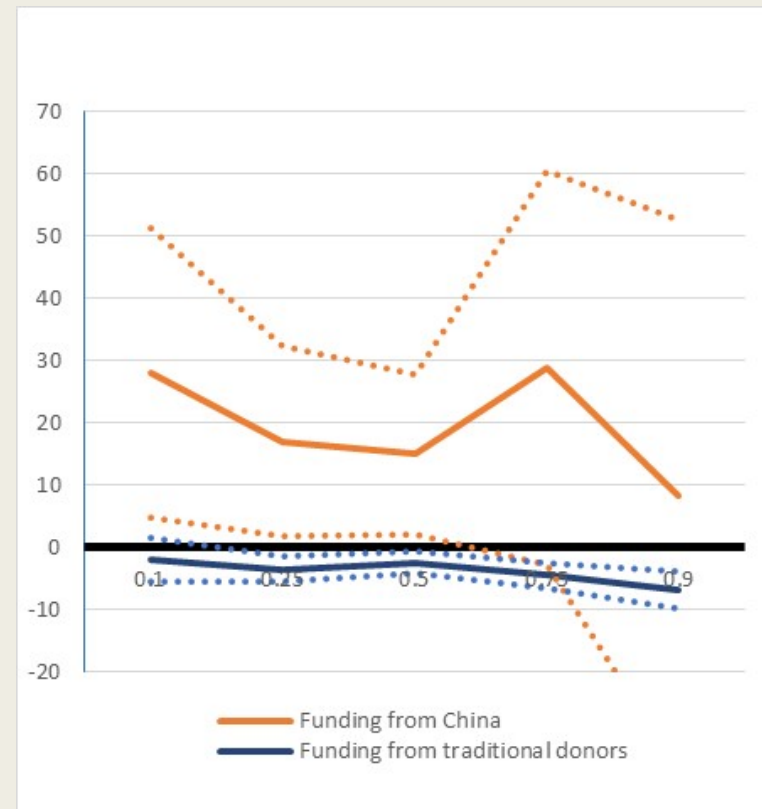
- **Government effectiveness** captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
- **Regulatory quality** captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
- **Rule of law** captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
- **Control of corruption** captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.
- **Political stability and Absence of Violence/Terrorism** measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism
- **Voice and accountability** captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.



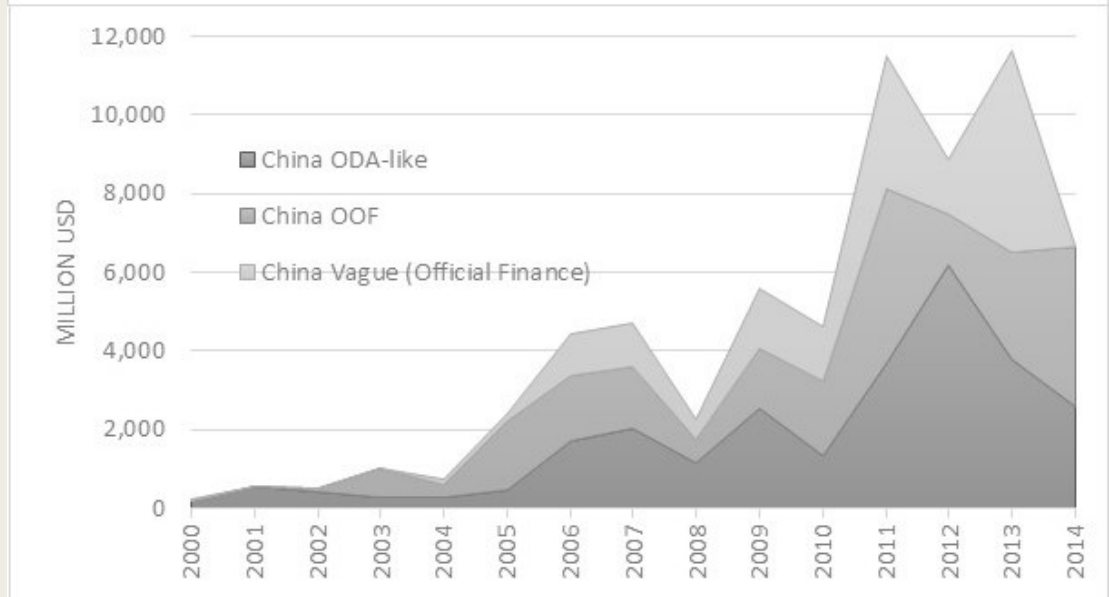
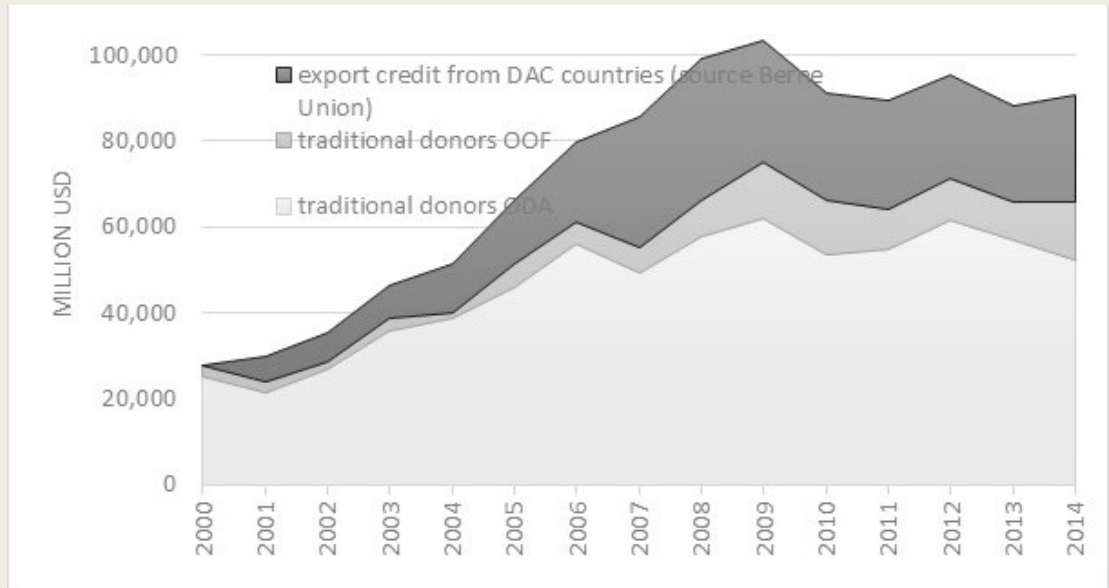
debt



rents



ODA and OOF



DAC and main multilateral

- **DAC members** are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, The Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.
- **Main multilateral donors** in OECD classification are EU Institutions, International Monetary Fund, Regional Development Banks, United Nations, World Bank Group.
- **Other multilateral donors** (not included in the current estimation) are Adaptation Fund, Arab Bank for Economic Development in Africa, Arab Fund, Climate Investment Funds, Global Alliance for Vaccines and Immunization, Global Environment Facility, Global Fund, Global Green Growth Institute, Green Climate Fund, Montreal Protocol, Nordic Development Fund, OPEC Fund for International Development, OSCE

www.aiddata.org

- www.aiddata.org and is based on open-source methodology, named Tracking Underreported Financial Flows (TUFF).
- It provides a systematic, transparent and replicable way of tracking aid and other forms of state financing from governments that do not publish comprehensive or detailed information about their overseas activities.
- TUFF synthesizes and standardizes unstructured, information from governments, international organizations, civil society groups, the private sector, journalists, and researchers. Quality assurance procedure includes eliminating duplicate records, checking the consistency of projects' classifications. As an open source database, users are also allowed to “suggest a project”, “confirm”, “challenge”, or “comment” on projects
- Our study uses the most recent version of the dataset (version 1.0) accessed on 05.12.2017.