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Financial flows from China and India: How concessional are they?

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Abstract This article attempts to estimate the concessionality of Southern financial flows using the OECD and World Bank methods in case of two major Southern providers, namely China and India. As loans from China and India are broadly perceived as non-concessional, the study employs a yardstick measure to investigate whether this perception holds true in practice. Based on a set of criteria, a group of lines of credit (LOCs) extended to developing countries by each provider were selected for the assessment. The obtained results show that most of the selected LOCs are concessional under OECD method and not necessarily under the World Bank method. Resource-secured loans found to be not concessional. The exercise also demonstrates that estimating the concessionality of Southern financial flows is mired by definitional, methodological and data challenges.

Keywords: development cooperation; concessional finance; South-South Cooperation; official development assistance; China; India

Introduction

While South-South cooperation (SSC) is not a recent trend in the global development cooperation landscape, the frequency and volume of South-South flows have phenomenally increased in recent years. The first High-level United Nations Conference on South-South Cooperation in Nairobi gave a major political boost to SSC by recognising its particularities and outlining ways to realise its potential. The Second United Nations High-Level Meeting on South-South Cooperation in Buenos Aires (2019) was aimed at reviewing the progress made by the international community on the commitments made in the first meeting and discussing new opportunities that SSC offered. SSC has thus acquired renewed importance as a means of implementation for global development frameworks such as the 2030 Agenda for Sustainable Development. Emerging Southern countries have strengthened their bargaining power with the concurrent downturn in Northern developed countries caused by multifaceted challenges such as declining oil prices, subdued demand and slower trade.[1] This shift enabled them to reform the international aid architecture by providing the much-needed complementary support to other developing countries. For instance, contributions – as a percentage of

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total global development assistance and other official flows– of emerging Southern countries increased notably from 2.2per cent in 2005–10.7per cent in 2013 (Bhattacharya, 2015, p.91).

SSC encompasses official development assistance (ODA), foreign direct investment (FDI), trade, remittances and more. Further, emerging Southern countries have set up separate institutions within their governments to manage international development assistance programmes. For example, India has set up its own agency to manage development cooperation programmes (Taneja, 2012).[2] Among them, China and India have drawn the most attention owing to their large scale and widely expanding international development activities. For example, gross concessional flows of China and India have increased from US$1.5 billion and US$0.4 billion in 2007 to US$3.4 billion and US $1.4 billion, respectively, in 2014 (OECD, 2013a; 2016). It has been observed that loans from Southern providers such as China and India are not conditioned on changing the governance system or macroeconomic policy targets but empirical evidence shows the presence of these new donors compels World Bank to impose lenient conditions to African countries (Hernandez, 2017, p.529). However, no evidence has been revealed about the repayment terms of Southern loans which determines its concessionality. It is imperative to observe the extent to which Southern financial flows are concessional since no-condition incentive could be enveloped with heavier repayment terms which could make low-income countries more indebted and less financially sustainable. Several studies have attempted to explain the reform of the international aid architecture, the changing role of non-Organisation for Economic Co-operation and Development - Development Assistance Committee (OECD-DAC) countries and the trends in South-South development assistance, but none have assessed the technical details of terms attached with the Southern development assistance (see Mawdsley, 2012; Mwase and Yang, 2012; Quadir, 2013, pp.321–338; Walz and Ramachandran, 2011).

This article is not about analysing the political economy aspect of South-South financial flows, the costs and benefits of these flows on the recipients' economy or the impact these financial flows have on human and economic development of the borrowers. This article has been written to systemise knowledge particularly on the technicalities of South-South bilateral financial assistance provided through public institutions with a specific focus on the grant element of concessional finance. Loans from China and India are broadly perceived as non-concessional. Using a yardstick measure, this study checks if this perception is true in practice. The well-established methodologies used by the OECD-DAC and World Bank have been employed to

1 The Global South consists of all countries other than the Development Assistance Committee (DAC) members of the Organisation for Co-operation and Development's (OECD). The DAC constitutes all Northern countries that provide ODA to the DAC list of ODA recipients.

2 There is a possibility that DAC countries will pull out aid from emerging countries given the phenomenal economic progress that they have made. For instance, Britain has already declared it would stop providing development aid to India (Mandhana, 2012).

reassess the terms of Southern finance to generate a comparable perspective. The article considers loans, lines of credit (LOCs) and grants in development assistance packages that are provided under bilateral arrangements by China and India. They find that the 'concessionality: of a LOC depends on the relevant information.'

Defining concessionality

Concessional finance includes grants without any repayment conditions and loans with more lenient terms than that of commercial finance. The concessionality of a loan is measured using grant element calculation formulas. The grant element is the difference between the loan's face value and the sum of discounted future debt service payments to be made by the borrower (or present value), expressed as a percentage of the loan's face value. If the interest rate is lower than the discount rate, the present value of the loan is lower than the nominal value of the loan. This difference is equivalent to the grant element of the loan. The larger the grant element, the more concessional the loan is, the maximum possible grant element being 100per cent in case of grant financing. The different terms for grant element and discount rate offered by OECD-DAC countries and World Bank are summarised in the Table 1 below.[3]

The OECD works with governments, multilateral organisations, private sector, civil society organisations and others to formulate policies that guide the development assistance programmes of its member countries, including defining the criteria for loan concessionality. The OECD-DAC countries provide finance to developing countries bilaterally or through international financial institutions (IFIs) including the Bretten Woods Institutions. DAC members regularly report data and information on their development assistance programmes to the DAC, which are made publicly available through the OECD's International Development Statistics online database. ODA from OECD-DAC excludes all private sector financing such as FDI and loans for strictly commercial and export financing purposes. However, export credits are counted as concessional, if they have a minimum grant element of 35per cent when using the six-month average currency-specific commercial interest reference rate. In 2014, the OECD concessional loan criteria was modified to direct more ODA to the poorest countries as was necessary because aid allocation to the poorest countries was falling – by as much as 16per cent in 2013 (OECD, 2015).

The World Bank, as a key IFI providing concessional finance to developing countries, maintains the long-practised lending scheme and the terms and conditions are customised according to a recipient's developmental status and credit worthiness, with low-income countries receiving finance with more concessional terms than

3 There are other South-South providers of concessional finance such as Asian Development Bank, Islamic Development Bank, Arab Bank for Economic Development in Africa. Their operational modalities and terms are heterogenous. While it would be interesting to understand their differences but the extent to which their financial involvement in developing countries is comparable with that of World Bank and OECD-DAC donors is a matter of another debate.

OECD's original definition for ODA	Any loans with minimum 25% grant element at a discount rate of 10%, provided for the purpose of economic development and welfare of the recipient. The recipient can be a developing country in the DAC list of ODA recipients or a multilateral development financial institution.
OECD's 'modernised' aid definition	Only grant and the 'grant portion' of concessional loan would be considered as ODA. The grant element must be minimum 45% for least developed countries (LDCs) and low-income countries (LICs), 15% for lower middle-income countries (LMICs) and 10% for upper middle-income countries (UMICs). The discount rate has been modified to be 5% in addition to 4% adjustment factor for LDCs and LICs, 2% for LMICs and 1% for UMICs.
World Bank (WB)/International Monetary Fund (IMF)'s traditional criteria	WB defines loan concessionality as one with at least 35% grant element, taken as part of a macroeconomic stabilisation programme with a unified discount rate of 5%.
WB's latest modification in concessional criteria	In October 2013, the previous system of setting interest rates according to the currency-specific Commercial Interest Reference Rate (CIRR) was terminated. Now interest rates and grant element calculations are made based on the US dollar value of the loan only.

Table 1: Criteria for loan concessionality

Source: Collated from |OECD (2008; 2013b; 2014) and International Monetary Fund (2015).

middle-income countries. They provide loans to support economic and social development in developing countries, but tie loans to policy reforms by receiving governments, with a focus on recovering the funds invested and transparency in impact assessments, especially for funds provided through multilateral channels (Nelson, 2015). All data on lending are reported on World Development Indicators (WDI) database. A significant change was made in 2013 for setting the discount rate to calculate the present value of any loan disbursed,

As evident from the Table 1 above, the OECD and World Bank/IMF set different criteria for loan concessionality. OECD uses World Bank's income level classification of countries to set discount rate to lenders, whereas World Bank now uses a common discount rate of 5per cent for all-income category of lenders. As small changes in discount rate alters the concessionality of loans, this point of difference is important. Before the OECD criteria had been modified in 2014, they had a lower grant element threshold than World Bank implying that prior 2014 some loans disbursed from DAC members could be deemed concessional by OECD, but not World Bank.

Regarding SSC, developing countries mostly use the World Bank/IMF criteria to measure the concessionality of the loans that they receive since Southern providers do not have unique criteria. The debate on whether loans provided through SSC should be evaluated using the World Bank or OECD concessionality criteria is ongoing. Since these are established criteria, and widely agreed benchmarks, they could be used to compare and contrast the concessionality of SSC loans. Therefore, we will not use the generic terms and conditions used by the China and India EXIM Banks for lending to low-income and middle-income countries, but instead compare the conditions these institutions impose on loan transactions with those in the World Bank and OECD lending framework to check the extent to which their loans are concessional. Some receiving countries may have their own definition of concessionality, but this article aims to analyse the loan terms and conditions based on a globally accepted definition of loan concessionality.

Measuring concessionality

The World Bank and International Monetary Fund (IMF) have a particular formula for grant element calculation that requires the values of certain variables: face value of loan, grant amount, interest rate, discount rate, a grace period and maturity period (in years), number of repayments per annum, principal repayment period (the difference between maturity and interval between two payments) and total number of repayments (see World Bank, n.d.a). The OECD has a separate formula for grant element calculation (see OECD, 2002). The difference between the World Bank/IMF method and OECD method is that the former takes account of grant amount, commitment and management fees attached to the loan agreement.

This article includes an exercise calculating the grant elements of selected LOCs provided by the Export-Import (EXIM) Banks of China and India using the World Bank/IMF and OECD methods. Since South-South financial flows are not monitored by a common platform, information on terms and conditions is not reported fully and regularly, and is often more difficult to find than information on total volume and sectoral allocations of South-South flows. Official documents from China and India's EXIM banks and ministries disclose disbursed amounts, but information on terms and conditions can only be found in the secondary literature relating to SSC. Data and information available from the AidData database were used for this article which included project-level data on the required variables for Indian and Chinese loans (Strange et al., 2017, pp.935–963; Tierney et al., 2011, pp.1891–1906). This study is a case-based analysis and cases were chosen based on a set of criteria as described below. The data is cross-sectional for each case of financial deal with either EXIM Banks.

LOCs for China and India were then chosen from the list in the database following a set of criteria: (i) LOCs from the EXIM Banks that were marked 'recommended for research'; (ii) IDA recipients in the region of Africa and Asia; (iii) financial flows intended for development; (iv) complete information on loan maturity, grace period and interest rate imposed; (v) year of contract – the three most recent available cases

Recipient and Year of Commitment	Committed Amount (USD)	OECD discount rate + adjustment factor[c]	OECD method: Equal principal payment	OECD method: Annuity	OECD method: Lump sum	World Bank/IMF method[b]: Equal principal payment	World Bank/IMF method[b]: Annuity	World Bank/IMF method[b]: Lump sum
Ethiopia (2007)	122,000,000	(5 + 4)%	50.91	51.81	75.91	28.78	29.42	49.12
		10%	56.61	57.43	80.68			
Ethiopia (2008)	166,230,000`	(5 + 4)%	50.91	51.81	75.91	28.78	29.42	49.12
		10%	56.61	57.43	80.68			
Sudan (2005)	350,000,000	(5 + 2)%	16.5657	17.1330	34.2862	5.99	6.21	17.59
		10%	29.5311	30.4488	52.8426			
Ghana (2005)	60,000,000	(5 + 2)%	41.2181	42.0396	65.1134	28.78%	29.42%	49.12%
		10%	54.9466	55.8715	79.9331			
Mali (2007)	45,000,000	(5 + 4)%	50.9070	51.8134	75.9118	28.78%	29.42%	49.12%
		10%	54.9466	55.8715	79.9331			
Bangladesh (2010)[d]	1,000,000,000	(5 + 2)%	47.12	47.65	68.99	54.99	55.44	74.43
		10%	59.94	60.52[e]	82.16			
Bangladesh (2015)[f]	2,000,000,000	(5 + 2)%	47.11	47.65	68.99	34.92	35.37	54.27
		10%	59.94	60.52	82.16			

Table 2: Grant element calculations[a] for Indian LOCs (as a percentage of the nominal value of the loan)

Source**:** Authors' calculations using AidData (2012); OECD (n.d.a); OECD (2002); World Bank, (n.d.a); World Bank (n.d.b); information from a key informant interview by the authors with an official at the Economic Relations Division, Ministry of Finance, Government of Bangladesh, 30 June 2016, was used in the case of Indian LOC to Bangladesh.

[a]The grant element is expressed as a percentage of the nominal value of the loan in US dollars. For all calculations, the number of instalments per annum for loan repayment was assumed to be 1, if information was otherwise unavailable.

[b]All loans disbursed by the World Bank and IMF are discounted at 5%. In the case that information on commitment fee amount and grant amount is unavailable or not applicable, they were assumed to be 0.

[c]In this column, calculations based on the 'modernised' OECD rates are given along the row with (5%+ x%) where x is the adjustment factor. The following row show calculations based on 'traditional' rate of 10%.

[d]The commitment fee was calculated at 0.5% of US$862 million, which is approximately US$4.3 million.

[e]Mullen (2014) calculated the grant element of this loan to be 61%. It was calculated at a 10% discount rate according to the previous concessionality criteria of the OECD.

[f]The commitment fee was calculated at 0.5% of US$2 billion, which is equal to US$10 million.

recorded in the dataset from each region; (vi) commitment amount of more than USD 100, 000, 000. The size of the loan criteria was set as large loans significantly influence low-income countries debt distress situation, a criteria usually taken into account when World Bank provides IDA to low-income countries. Eight cases recorded with the largest commitment amount were selected. The dataset is found to have recorded fewer cases of India lending such a large loan for which the cases with the highest commitment amount were selected.

AidData does not contain complete information on the financial terms of LOCs. There is no information on the number of payments per annum, commitment fee amount, grant amount or repayment scheme (equal principal payment, annuity or lump sum debt service). Therefore, for the purpose of this article, calculations had to be made based on certain assumptions. Since grant element calculation is based on repayment scheme and there is no information in the dataset on the particular scheme agreed on for repayment, all three repayment schemes were considered while assuming one payment per annum. The commitment fee amount and grant amount were assumed to be zero in cases of missing information. Two calculations were made using the OECD method based on the discount rates for the 'modernised' and 'traditional' criteria. The results are provided later in Tables 2 and 4.

The following section estimates the concessionality of selected LOCs from China and India, and focuses on the terms and conditions attached to concessional finance. The crucial factors being analysed are the grant elements of LOCs and the nature of the conditionalities attached to funds.

India's LOCs to developing countries

India provides development assistance in the forms of grants, technical assistance, training of public officials, scholarships to study in India, and occasionally, budget support (Mullen, 2014, pp.3–4). The Indian Ministry of External Affairs allocates grants and technical assistance to development partners. Bilateral loans are disbursed by the ministry under the supervision of the Indian Ministry of Finance. The Indian government provides concessional LOCs through the EXIM Bank of India. Across the disbursement process, the Bank holds importers and exporters accountable for every transaction taken by means of the LOC. It has authority over major decisions regarding funds disbursement and project implementation. Funds disbursed by the EXIM bank do not involve long appraisal processes, which enables faster transactions and facilitates proceedings.

Based on the criteria described above, Table 2 shows the grant elements of loans to Bangladesh, Ethiopia, Sudan, Mali and Ghana. The size of loans provided to other Asian IDA recipients were much below the criteria set for this study, for which we consider more cases from Africa.

First, the Indian LOC to Ethiopia with a face value of US$122 million provided in 2007 was considered. It was arranged to develop the country's sugar industry. The loan was provided at LIBOR (London Interbank Offered Rate) plus a 0.75per cent per annum rate of interest with a five-year grace period and 20-year maturity period. A second LOC of US$166.23 million was approved in 2008 with the same terms and purpose. Calculations show both of these LOCs were technically concessional under the OECD criteria, though not by the World Bank/IMF concessionality criteria (a grant element below 35per cent). The lump sum debt payment condition would have made the LOC concessional under World Bank/IMF criteria, but no information on repayment scheme was available to confirm such case. Similarly, the grant element of the US$350 million to Sudan in 2005 was calculated. This loan was provided to set up power plants by the M/s. Bharat Heavy Electrical Limited (BHEL). This loan was intended for developmental purpose and provided on terms of 12 years maturity, 3 years grace period with 4per cent interest. The grant element calculations show this loan was not concessional. The next, case of US$60 million loan in 2005 to Ghana to construct infrastructure for rural electrification and US$45 million in 2007 to Mali for electrical transmission and distribution were considered. The OECD method found them to be concessional and World Bank criteria found them non-concessional under the repayment terms of 20 years, maturity, 5 years grace period and 1.75per cent interest rate payment. Therefore, the concessionality of these loans varied according to the method used for grant element calculation.

The EXIM Bank of India committed two of its largest LOCs ever offered to Bangladesh worth US$1 billion in 2010 and US$2 billion in 2015. It is a service-tied infrastructure financing loan, with the main construction projects being contracted to Indian firms. The first LOC was offered at a 1.75per cent interest rate, and with a requirement that 85per cent of needed goods and services be purchased from India. In May 2012, the terms were revised. They offered almost US$200 million as a grant equivalent and US $862 million as the loan amount from the EXIM Bank of India. The revised terms are fixed interest rate of 1per cent, and the condition that 65per cent of construction resources and 75per cent of other goods and services are procured from India. The LOC will mature in 20 years and has a grace period of five years. As calculations show the grant element meets the criteria, the LOC is technically concessional and ODA-like. The second LOC has tighter conditions than those in the first LOC, but the financial terms are exactly the same. It requires 75per cent of needed goods and services to be procured from India and the submission of biannual implementation reports, along with the condition that only Indian firms can take responsibility for all projects under this LOC. Thirteen projects – a combination of procurement deals and construction projects – have been approved under the LOC.

Experience of project implementation under the first LOC indicate that the procurement deals were approved and implemented much faster than the construction projects. Disbursements for the largest construction projects have not yet begun (Sultana, 2016; United News of Bangladesh, 2015). The ones that have begun, have an internal rate of return of less than 1per cent, which can be largely attributed to lags in the disbursement of funds.

Nevertheless, the Indian LOC is more attractive than concessional loans from the World Bank. The LOC has a much shorter maturity period compared to the 40-year maturity loans from the World Bank, and the conditions for repaying the LOC are tighter, essentially limiting the benefits of it being concessional. However, the LOC fills the necessary investment gap in the transport sector that traditional donors including the World Bank and Japan International Cooperation Agency had been rather skeptical about filling. Moreover, project selection and fund disbursements by traditional providers require lengthier appraisal procedures, hence funds from India are preferable. Therefore, the constraints of a shorter maturity period and tighter repayment conditions are insignificant given the concurrent benefits of acquiring relatively more cost-effective, speedy processing of funds, and no attached conditionalities regarding governance and macroeconomic policy reforms in line with the SSC principles of horizontality and non-conditionality.

In sum, only the Indian LOCs to the selected cases of loans to low-income countries were concessional according to OECD method, but not with the World Bank criteria. They were targeted to infrastructural projects in transport, energy generation and industrial sectors.

China's LOCs to developing countries

China provides a combination of concessional and non-concessional finance largely comprising of concessional loans, grants and interest-free loans. According to the second White Paper on China's foreign aid, the composition of concessional finance was concessional loans at 55.7per cent, grants at 36.2per cent and interest-free loans at 8.1per cent (Information Office of the State Council, 2014, p.2). Based on data and information available from AidData, the proportions of grants and loans flowing to various developing countries vary (see Table 3). The Chinese Ministry of Finance decides the aid budget, which is disbursed bilaterally to developing countries and IFIs such as the World Bank and IMF. The Chinese Ministry of Commerce is responsible for disbursing grants and interest-free loans, whereas the EXIM Bank of China provides concessional LOCs, non-concessional loans and preferential export credits.

Top recipients	Angola	Congo	Ghana	Ethiopia
Total ODA-like flows	147.3	16.7	1,497.0	8,490.0
Loans	94.1	1.3	528.0	42.9
% of total	63.9	7.8	35.3	0.5
Grants	3.2	15.4	843.1	5,917.5
% of total	2.2	92.2	56.3	69.7

Table 3: Composition of China's development finance (US$ millions)
Source: Authors' calculations using AidData (2015).

Official figures for China's development finance are hardly comparable with other official figures because of definitional mismatches between the Chinese and other established systems. Some of China's funds meet the OECD definition of ODA, but the majority of financial flows cannot be classified as ODA. For instance, unlike ODA flows from DAC members, China includes military aid, but not student scholarships, in development finance. Some loans are provided on concessional terms, but have conditional repayment conditionalities attached, such as commodity exports or through profits from another project being financed by a Chinese company (Bräutigam, 2011a, pp.212–214). Therefore, disentangling genuine forms of development assistance from investment, project support and technical assistance funds can be difficult.

Much like India's foreign assistance package, the EXIM Bank of China provides LOCs to developing countries as part of China's development finance. China's bilateral finance was approximately US$2.8 billion in 2013, up from US$2.6 billion in the preceding year (OECD, 2015, p.303). Overall, China's development finance is provided for industrial and economic infrastructure projects, particularly turn-key projects (Bräutigam, 2011b, p.754; Krauss and Bradsher, 2015). ODA flows are targeted to the developing countries, but inclined to those having political ties with China (Dreher et al., 2015, p.19). There appears to be no empirical evidence for the widely proclaimed view that only natural resource-rich African countries can attract Chinese aid. Table 3 shows the top four recipients of Chinese development finance, where the AidData dataset supports the claim that China's development finance transactions have been most frequent on the continent of Africa (Strange et al., 2014). The dataset also shows that some Asian countries such as Cambodia, Laos, Nepal and Bangladesh received large loans from China as well. Table 4 shows the grant elements of criteria-based selected Chinese LOCs to Ethiopia (two separate LOCs were considered), Ghana, Uganda, Cambodia, Nepal and Bangladesh.

The first Chinese LOC considered in Table 4 was committed to Ethiopia in 2013. It had a face value of US$332 million and was intended to support the construction of a cross-border water pipeline from Ethiopia to Djibouti (only 90 kilometres of which was to lay in Djibouti). Since Ethiopia is a low-income country, the risk adjustment factor used during calculation with the modernised OECD criteria is 4per cent rather than the 5per cent discount rate. The OECD method indicates that the grant element of this LOC is more than 45per cent (making it concessional), but the World Bank/IMF method – addressing 0.25per cent management and commitment fee – indicates that it is less than 35per cent (making it non-concessional).

The second Chinese LOC considered was committed to Ethiopia in 2011. It has a face value of US$475 million and was intended to support the construction of a railway line of 36.5 kilometres in Addis Ababa. It was provided at LIBOR six months plus 2.6per cent interest rate per annum, a three-year grace period and 25-year maturity period. The OECD modern method indicates that the grant element is below 45per cent rendering it non-concessional, but the traditional OECD criteria indicates that the grant element is above 25per cent for this LOC, stipulating that it is concessional

			OECD method			World Bank/IMF method[a]		
Recipient and Year of Commitment	Committed Amount (USD)	OECD discount rate + adjustment factor [b]	Equal principal payment	Annuity	Lump sum	Equal principal payment	Annuity	Lump sum
Ethiopia (2013)	332,000,000	(5%+4%)	48.27	49.07	73.24	23.62	24.13	43.47
		10%	52.72[c]	53.54	77.70			
Ethiopia (2011)	475,000,000	(5%+4%)	34.53	36.25	66.29	21.42	22.60	47.97
		10%	48.81	50.89	82.15			
Ghana (2007)	292,000,000	(5%+2%)	39.26	40.15	63.82	26.56	27.24	47.24
		10%	53.28	54.30	79.19			
Uganda (2007)	106,000,000	(5%+4%)	53.40	54.82	82.60	29.86	30.90	55.70
		10%	57.50	58.94	86.16			
Cambodia (2012)	99,283,600	(5%+2%)	34.78	34.98	47.71	22.99	23.13	33.18
		10%	48.59	48.83	63.50			
Nepal (2011)	115,700,000	(5%+4%)	55.30	56.60	83.33	32.35	33.34	57.55
		10%	59.29	60.60	86.73			
Bangladesh (2013)	230,803,014	(5%+2%)	39.26	40.15	63.82	26.56	27.24	47.24
		10%	53.28	54.30	79.19			

Table 4: Grant element calculations for Chinese LOCs (as a percentage of the nominal value of the loan)

Source: Authors' calculations using AidData (2015); OECD (n.d.a); OECD (2002); World Bank, (n.d.a); World Bank (n.d.b).

[a]All loans disbursed from the World Bank and IMF are discounted at 5%. In the case that information on commitment fee amount and grant amount is unavailable or not applicable, they were assumed to be 0.

[b]In this column, calculations based on the 'modernised' OECD rates are given along the row with (5%+ x%) where x is the adjustment factor. The following row show calculations based on 'traditional' rate of 10%.

[c]If one instalment per annum is assumed, the calculation is the same as that in the dataset.

according to the 25per cent traditional threshold for loan concessionality. The World Bank/IMF method renders it to be non-concessional unless repaid using lumpsum repayment scheme.

Next, the LOC provided for the construction of the Bui Dam in Ghana in 2007 using an export credit worth US$292 million and a loan worth US$270 million from the EXIM Bank of China was considered. The export credit was provided on terms including a five-year grace period and 12-year maturity period. The loan was provided at a 2per cent interest rate with a five-year grace period and 20-year maturity period. It is a resource-secured loan, where repayments are to be made through the export of cocoa beans to China. However, it is not known if transactions are made at spot price or futures price. Both OECD and World Bank/IMF methods deem this LOC to be non-concessional.

In contrast to the aforementioned LOCs, the EXIM Bank of China extended an LOC worth US$106 million to Uganda in 2007 for constructing fibre optic infrastructure to improve information and communication technology in the country. The terms were a 2per cent interest rate, five-year grace period and 25-year maturity period. This loan was found to be concessional using both OECD methods, but non-concessional using World Bank method.

Next considering a case of almost US$100 million loan agreement between China and Cambodia in 2012 under which the EXIM Bank of China would provide a concessional loan for the development of the multipurpose dam in Northwestern Battambang province. The loan terms were 13 years maturity, 7 years grace period and 2per cent interest rate. OECD method showed this loan was concessional, World Bank method showed it to be non-concessional. A case of US$115.7 million to Nepal in 2011 was provided to partially find the development of a hydro-electric power plant. Under the terms of 25 years maturity, 5 years grace period and 1.75per cent interest rate, the loan was found concessional using both methods. Finally, a case of $227 million under a Chinese Government Concessional Loan agreement and $64 million under the Preferential Buyer's Credit to Bangladesh in 2013 was considered. The loan was meant to construct a water treatment plant in Munshiganj district to treat water from Padma river. The terms of both are 2per cent interest with a repayment period of 20 years (with a grace period of 5 years), with management and commitment fees at the rate of 0.2per cent. The loan was found concessional using OECD method, but not with World Bank criteria.

These LOCs demonstrate that any development project under a Chinese LOC involves a multifaceted approach. There is no single modality or uniform terms and conditions across the different LOCs. Moreover, projects are mostly infrastructural, there are associated with external social benefits for people in receiving countries. For example, the completion of the railway line in Ethiopia and dam in Ghana would contribute to long-term progress in these countries by spurring economic activities and subsequent social development in the projects' areas. Therefore, financial nonconcessionality could be an insignificant burden, if positive multiplier and spillover effects are considered.

Results show that the lump sum debt service scheme has a higher grant element than the equal principal payment or annuity schemes. Also, it was found that the higher the discount rate, the higher the grant element; and hence, the more concessional the loan becomes. Similarly, the lower the number of instalments per annum, the higher the concessionality of the loan would be. The calculated results provided in Tables 2 and 4, and thus the judgments on concessionality, may change if the assumptions were changed.

Overall, it is observed that loans from China and India were found concessional using the OECD method, but not the World Bank method. One of the reasons for this outcome could be the fact that World Bank provides IDA to these countries that include a grant and loan component in lending packages and their proportion in the package depends on the recipient's level of debt distress. For example, a country at a moderate risk of debt distress may receive 50per cent grant and 50per cent loan, whereas a highly debt risk country may receive 100per cent grant financing. The loans from China and India did not necessarily have an explicit grant financing component in their lending package, possibly for which the grant element was found to be lower than threshold. Moreover, repayment conditions attached to thesefinancial flows are not adequately reported, meaning that comprehensive analysis of concessionality cannot be conducted. From what has been found, the OECD method with modernised criteria found fewer concessional cases. The loans provided before 2014 were found to be non-concessional using the 'modernised aid' threshold for the grant element, even if they were found to be concessional according to the traditional OECD or World Bank/IMF criteria. Evidently, concessionality varies according to the criteria used for assessment. It also depends on the availability of data and information on the variables used for calculations.

Development assistance from China and India are alike. However, these LOCs are attached to different forms of repayment and conditionalities e.g. an additional requirement of procuring all construction materials from the lending country. The extent to which these loans are development-friendly or ODA-like, therefore cannot be assessed by only using financial criteria such as the grant element. In view of these constraints on assessing the concessionality of Indian and Chinese financial flows, this article provides broad guidelines for the data and information needed to assess the quality of South-South flows and associated policy recommendations.

Data and content challenges to measure concessionality

Inadequate reporting on SSC constrains detailed and informative analysis. The International Development Statistics database makes some data available on Southern providers. Apart from the DAC, 18 countries report to the OECD using the OECD's ODA definition. For nine countries that do not report to the OECD, the International Development Statistics database makes data available by collecting information from their public domains.[4] These 27 countries consist of OECD member countries, OECD accession countries and non-OECD countries. Data for non-OECD countries are understood to be the least reliable among the three country categories since these countries do not report their development assistance using a common definition.

Southern finance flows through intertwined channels of government institutions and associated financial institutions, which makes monitoring and evaluation difficult. The definitional challenges for SSC are additional constraints to setting reporting standards. For instance, since Southern providers do not necessarily cooperate on the basis of the OECD definition of ODA, data and information from the South are not comparable with those from the North. Types of development assistance are dissimilar even across Southern providers, which hinder comparison of their development assistance packages.

Several online databases collect and compile data and information on Southern development assistance from various sources. The data available from the OECD's International Development Statistics and the World Bank's World Development Indicators are not useful for analysing SSC flows. AidFlows and the International Aid Transparency Initiative collect information from existing sources and provide links. Data from AidFlows have the same constraints as those from the International Development Statistics and World Development Indicators databases. The International Aid Transparency Initiative mainly provides links to civil society organisations' information portals, which makes it of limited use to analyse financial flows from the EXIM Banks of China and India. On the other hand, AidData provides customised data on financial flows that are disaggregated by country and project. Information on types of flows – grants, loans (concessional and non-concessional) and humanitarian assistance – is provided. Notably, there are separate databases for non-OECD development assistance and Chinese development finance, but their project-level data are dated, with no figures from 2013 onward (see AidData, 2012). This article makes extensive use of data and information from AidData to analyse development assistance from China and India.[5]

The burden of providing comprehensive, disaggregated data falls on and will remain with Southern providers. The data situation concerning SSC is undergoing changes, however (Southern Voice, 2016, pp.2–7). For instance, the provision of more elaborate foreign aid statistics in the fiscal yearbook published by the Chinese Ministry of Finance was discussed in more detail in the second white paper on China's foreign aid compared to the first. Still, emerging Southern countries do not

4 The nine non-reporting countries, for which the OECD tries to maintain data on development assistance, are: Brazil, Chile, China, Colombia, India, Indonesia, Mexico, South Africa and Qatar (OECD, n.d.b).

5 The authors are aware of the growing criticism of AidData's dataset regarding its quality and reliability, particularly the credibility of media-based 'Tracking Underreported Financial Flows' methodology they use to collect data. However, it is the only available and accessible dataset on project-level loan disbursement by China.

have sufficient incentives to be transparent and accountable with disaggregated data that are available globally (Southern Voice, 2016, p.5). Even in the second white paper on China's foreign aid, data are only gross estimates and do not include project-level information or the conditions imposed on recipient countries.

One of the issues constraining analysis is the accessibility of data. Southern donor institutions report on their activities to national authorities, but these data are often not publicly available. Also, there are cases where data are reported only in the national language (for example, Mandarin for China's activities). Hence, relevant data is not immediately universally useful, with translation being required by the international development community. Several studies that attempted to compile the volumes and types of SSC flows used publicly available data and information, specifically the annual reports of EXIM banks, development cooperation agencies and IFIs (such as Basu, 2014, p.8,14,26; United Nations Economic and Social Council, 2008, pp.45–53). To fill in the information gaps, public officials responsible for implementing and managing SSC programmes were contacted. However, this entire process takes time, which could preclude accurate, timely analysis.

Another conundrum arises regarding the contents of development assistance packages of traditional donors and South-South development assistance programmes. The packages provided by DAC members do not capture all the development-related financial resources provided by Southern countries. For instance, DAC members exclude military assistance, peacekeeping support, policy services to control civil disorder, sponsoring of concert tours or athletes' travel costs, and assistance to refugees with over one year stay in the donor country. Export credits extended by a donor government or its agencies are excluded in case of loans with one or more years maturity and a grant element of less than 25per cent, irrespective of the purpose, and short-term debt is also excluded. Further, their customised 'programmable aid' in the ODA domain excludes humanitarian assistance, debt relief and administration costs. Southern providers, on the other hand, do not usually include scholarships or student costs in their assistance, whereas DAC members do, which expands the share of DAC contribution to aid for education (United Nations Economic and Social Council, 2008, p.6). Concessional export credits and other official flows are categorised as 'concessional in character' though not included in ODA. Southern countries such as China and India include administrative costs, refugee costs and military aid in their development assistance programmes. Since their development assistance packages are not comprehensively defined, assessing the quality of SSC flows and conducting cross-country comparisons of development assistance programmes among partners from the DAC and Global South are difficult.

The benefits of having coherent definitions include not only having a reliable understanding of SSC, but also ensuring mutual accountability for disbursing development assistance, monitoring the effectiveness of assistance and meeting commitments. Hence, it is important to understand the overarching nature of loan concessionality, and what actually counts as ODA.

Conclusion

Financial flows between Southern countries have emerged as one of the essential sources of finance for low- and middle-income developing countries. SSC often leverages national resources in ways that result in mutual benefits for Southern providers and recipients. Expansion of Southern financial flows make it important to assess their quality, including measuring their concessional flows as compared to ODA flows by DAC members.

This article undertook an exercise to estimate the concessionality of Southern financial flows with two methods used in the case of ODA flows: the World Bank method and the OECD method (using both modernised and traditional criteria). The exercise considered two major Southern providers of financial assistance, namely China and India. LOCs extended to developing countries by each provider were selected for assessment, taking into account the recipients' World Bank country and lending groups classification, regional allocation, size of loan commitment and most importantly, the availability of data and information on LOCs. The terms and conditions across different LOCs were found to be varying, which hindered their comparison. This could be because of the EXIM Banks' own terms and conditions are separate for low- and middle-income countries. However, as the cases were selected for all IDA recipients, these terms were compared to a yardstick measure of concessionality to check if EXIM Banks' definition of concessionality meets external validity. The findings were underpinned by varying discount rates used for grant element calculation, which are set according to the World Bank's income-based (recipient) country classification scheme. The estimates of concessionality also vary due to different repayment schedules followed for each LOC. Calculations using the OECD method with traditional criteria, which have a lower minimum grant element requirement than the modernised criteria, indicate that the selected LOCs qualify as concessional finance. The OECD modernised criteria also deem them concessional. However, the World Bank measure found all the loan agreement cases to be non-concessional. This shows financial flows from China and India to fund projects intended for development are systematically different from IDA funds from World Bank. Perhaps this explains why these funds are broadly perceived as non-concessional.

The exercise demonstrates that estimating the concessionality of Southern financial flows is complicated by methodological challenges. First, there are no common established parameters for defining concessionality of financial flows in the context of SSC. Thus, assessment of Southern financial flows based on methods designed for the DAC's ODA flows may miss certain features of SSC. Second, Southern providers use diverse terms and conditions when extending their financial assistance, which makes comparing the concessionality of Southern financial flows across recipient countries difficult. Consequently, establishing a common assessment framework for Southern financial flows remains challenging. Third, relevant data and information on Southern financial flows are relatively scarce. Whatever data are available are dated and insufficiently disaggregated, while data collection methods are not uniform. The lack of a common definition of concessionality also makes it difficult to set standards for data generation and reporting.

This article sheds light on the nature of concessionality of Southern financial flows. However, whether concessionality of aid affects the allocative priority in recipient countries and have better impact on the marginalised group in the economy is a concern for a separate debate. Meanwhile, for a more robust assessment of the effectiveness of SSC, efforts and investments should be made to establish a set of norms and standards as part of a common assessment framework as well as to generate and provide relevant data and information on Southern financial flows.

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