CAHIERS

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

DOCUMENTS DE TRAVAIL DE LA DG TRÉSOR

Numéro 2016/01 – Mars 2016

Concessional finance and ODA reporting of long term financial instruments

Léonardo PUPPETTO

TRÉSOR
DIRECTION GÉNÉRALE

CONCESSIONAL FINANCE AND ODA REPORTING OF LONG-TERM FINANCIAL INSTRUMENTS

Léonardo PUPPETTO*

This Working Paper should not be reported as representing the views of the French Ministry of Finance, but as author views.

* **Léonardo PUPPETTO**[1] is Deputy head, Official Development Assistance Division, within the French Directorate-General of the Treasury (DG Trésor) at the Ministry for Finance and Public Accounts and Ministry for the Economy, the Industry and Digital Affairs (France)

leonardo.puppetto@dgtresor.gouv.fr (+54 11 4394 3036)

[1] The author is grateful to Hubert de Milly from the AFD, Treasury colleagues Shanti Bobin, Linah Shimi, Claire Devineau, Fabien Bertho, Paris Club colleagues, Arnaud Buissé, Anthony Requin, who all provided comments, remarks, criticism, passion and analysis.

Table of Contents

This working paper was prepared for the September 2014 working party on development finance statistics. An ad hoc working group of senior officials, chaired by DFID Permanent Secretary Mr Mark Lowcock, was tasked by the DAC chair to find a compromise on loan concessionality, ahead of the DAC high level December 2014 meeting. This document is not presenting the HLM agreement. It illustrates preliminary thinking that was undertaken in order to stimulate technical and preliminary discussion.

The HLM Final communiqué is available here: http://www.oecd.org/dac/dac-hlm.htm

Ce document de travail a été présenté au groupe de travail technique du CAD sur les statistiques relatives au financement du développement. Afin de préparer la réunion à haut niveau du CAD de décembre 2014, un groupe ad hoc de hauts fonctionnaires présidé par le Secrétaire Permanent du DFID, M. Mark Lowcock, a été chargé d'élaborer un compromis sur l'évaluation de la concessionnalité des opérations de prêts d'aide publique au développement. Ce document de travail ne constitue donc pas une présentation de cet accord, mais des réflexions préliminaires destinées à susciter la discussion.

L'accord de la réunion à haut niveau de décembre 2014 est disponible à l'adresse suivante: http://www.oecd.org/dac/dac-hlm.htm

Abstract

The rather unclear DAC definition of concessionality has created intense debate among DAC members and beyond. The 10% discount rate is not grounded on a sound definition, and the concessionality in character criterion, namely that interest rates on loans should be "below the prevailing market rate"[2], is also unclear. We advocate here for assessing concessionality through risk-adjusted discount rates. Such rates could easily be computed through risk and cost-of-funding proxies. For the sake of simplicity and clarity, as well as practicability considerations, we propose here to set only three distinct discount rates, relying on market and academic data on risk spreads. With such discount rates, one would be able to assess the concessionality of long-term financial instruments such as loans and guarantees. Every instrument found to be priced below private sector terms, proxied by risk-adjusted discount rates, should be considered as concessional. The corresponding grant element would then reflect the donor effort. In doing so, the DAC would restore incentives to operate more with least developed countries (LDCs) and other lower income countries (LICs), and contribute to address the massive long-term capital shortfalls these economies are facing. Based on empirical data[3], we found that only 10% of committed long-term concessional finance since 2006 was in favor of LDCs and LICs, while upper middle-income countries (UMICs) received nearly 30% of total committed amount. However, loans towards LDCs and LICs are found to be highly-concessional, with an average grant element of nearly 80%[4], interest rate of less than 1% for average maturities beyond 30 years. Risk-adjusted discount rates and appropriate safeguards (IMF/WB debt sustainability framework as well as concessionality thresholds) would change donor incentives, while better reflecting the operational framework and cost incurred to a greater exposure to LDCs and LICs (use of public money for provisioning uncovered risks, unhedged exposures, regulatory requirements and more broadly "advisory work" to secure enabling conditions for development results).

Résumé

La définition peu claire de la concessionnalité de l'aide du Comité d'aide au développement (CAD) de l'OCDE a suscité d'intenses débats. Le taux d'actualisation de 10 % utilisé pour évaluer le degré de concessionnalité ne repose sur aucune norme, et le critère de « concessionnalité en caractère », c'est-à-dire le fait que les taux d'intérêt des prêts d'aide publique au développement (APD) devraient se trouver « en dessous du taux de marché », est également peu clair.

Nous proposons ici d'introduire un nouveau cadre de mesure de la concessionnalité basé sur des taux d'actualisation ajustés du risque. De tels taux peuvent être facilement calculés sur la base de l'observation des conditions de financement des bailleurs et de mesures de risque dans les pays récipiendaires. Afin de maintenir un système de comptabilisation de l'aide clair et compréhensible par tous, facile à mettre en œuvre, nous suggérons de ne retenir que trois taux d'actualisation, différenciés selon les différentes catégories des pays éligibles à l'aide, et déterminés sur la base de taux de marché et de données sur les risques souverains. Avec de tels taux d'actualisation, le CAD serait en mesure d'évaluer de manière plus rigoureuse la concessionnalité des prêts d'APD, mais aussi celle d'autres instruments financiers tels que les garanties, aujourd'hui non pris en compte dans l'APD. De manière générale, chaque instrument financier dont le prix est inférieur au prix de marché devrait être considéré comme présentant un élément de concessionnalité, ou « élément-don ». L'élément-don représenterait alors l' « effort du donateur ».

En adoptant un système de taux d'actualisation différenciés, le CAD donnerait en outre de fortes incitations aux bailleurs à davantage concentrer leurs ressources concessionnelles dans les Pays les moins avancés (PMA) et les autres Pays à faible revenu (PFR). Sur la base des données du CAD, nous trouvons en effet que seulement 10 % du total des prêts d'APD engagés par l'ensemble des bailleurs du CAD entre 2006 et 2012 sont en faveur des PMA et PFR, alors que les Pays à revenu intermédiaire de la tranche supérieure (PRITS) ont bénéficié de plus de 30 % de ces engagements. Il faut néanmoins souligner que les quelques prêts d'APD engagés en faveur des PMA et PFR sont remarquablement concessionnels : leur élément-don moyen s'élève à 80 %, avec un taux d'intérêt en dessous de 1 % pour des maturités moyenne de l'ordre de 30 ans.

Des taux d'actualisation différenciés couplés à un volet « sauvegarde » approprié, notamment le respect par les bailleurs du cadre de soutenabilité de la dette mis en place par le FMI et la Banque Mondiale ainsi qu'un seuil de concessionnalité minimum pour les PMA et PFR, changerait la structure des incitations données aux bailleurs. Ce serait également un moyen de mieux refléter le cadre opérationnel des agences de développement qui opèrent dans ces pays à des coûts plus élevés.

[2] See chapter II/art. 49 of the Converged Statistical Reporting Directives for the Creditor Reporting System.

[3] DAC statistical series.

[4] Using the current 10% discount rate.

1. Introduction

The rather unclear DAC definition of concessionality has created intense debate among DAC members and beyond. The 10% discount rate is not grounded on a sound definition, and the concessionality in character criterion, namely that interest rates on loans should be "below the prevailing market rate"[5], is also unclear. We advocate here for assessing concessionality through risk-adjusted discount rates. Such rates could easily be computed through risk and cost-of-funding proxies. For the sake of simplicity and clarity, as well as practicability considerations, we propose here to set only three distinct discount rates, relying on market and academic data on risk spreads. With such discount rates, one would be able to assess the concessionality of long-term financial instruments such as loans and guarantees. Every instrument found to be priced below private sector terms, proxied by risk-adjusted discount rates, should be considered as concessional. The corresponding grant element would then reflect the donor effort. In doing so, the DAC would restore incentives to operate more with least developed countries (LDCs) and other lower income countries (LICs), and contribute to address the massive long-term capital shortfalls these economies are facing. Based on empirical data[6], we found that only 10% of committed long-term concessional finance since 2006 was in favor of LDCs and LICs, while upper middle-income countries (UMICs) received nearly 30% of total committed amount. However, loans towards LDCs and LICs are found to be highly-concessional, with an average grant element of nearly 80%[7], interest rate of less than 1% for average maturities beyond 30 years. Risk-adjusted discount rates and appropriate safeguards (IMF/WB debt sustainability framework as well as concessionality thresholds) would change donor incentives, while better reflecting the operational framework and cost incurred to a greater exposure to LDCs and LICs (use of public money for provisioning uncovered risks, unhedged exposures, regulatory requirements and more broadly "advisory work" to secure enabling conditions for development results).

2. Development loans towards developing countries entail a cost and an effort for donors

Donors are spurring economic as well as social development when providing long-term financing in developing countries, where international capital is reluctant to go. Interest rates and prices of financial instruments like securities or guarantees exchanged on markets depend on many factors. For profit-oriented deals, prices (often expressed as interest rates, premiums or spreads) are set so as to reflect the cost of mobilizing capital during a given period of time, plus risk associated to the counterpart of the financial instrument. The more the likelihood of loss increases, the more investors require to be compensated[8]. When uncertainties are too high, investors generally decide to limit such country exposure to a very small share of their portfolio. As a result, global savings managed by international investors are insufficiently directed towards developing countries. Development banks, funds, and development institutions in general, typically contribute to fill this gap by providing concessional finance to countries[9]. Grants are crucial in meeting development needs, especially in a short-term horizon (emergency and humanitarian assistance being the most striking example). However, for longer time-horizon objectives, for instance spurring economic growth, adapting to climate change, or building sustainable cities, concessional long-term finance is more appropriate.

[5] See chapter II/art. 49 of the Converged Statistical Reporting Directives for the Creditor Reporting System.

[6] DAC statistical series.

[7] Using the current 10% discount rate.

[8] In practice, market volatility, liquidity or inflation also deeply impact cash and derivatives instruments pricing. Although being very important, these aspects are not considered here.

[9] See for instance Caprio, Gerard, and Asli Demirgüç-Kunt (1998), "The Role of Long-Term Finance: Theory and Evidence". The World Bank Research Observer, Vol. 13, N° 2, pp. 171-89 (August).

When pricing financial instruments, the private sector relies on ex-ante estimates of credit risk. When extending a loan to a developing country at a lower rate than risk estimation would suggest, development agencies and institutions must cover the marginal risk that is not priced in through their own funds. Financially speaking, it means that each loan below market prices is entailing an effort for the donor.

For donors, taking more risk in long-term operations increases the cost of extending financing. Capital is scarcer within developing economies, so that the marginal rate of return on investments should be higher than in developed economies and attract foreign investors[10]. In practice, there remains an important financing gap in developing countries, with substantial amount of investments needed in infrastructure, climate change adaptation and mitigation, health, agriculture, energy, global commons, and so on. In a recent contribution to the Intergovernmental committee of experts on sustainable development financing, the UN secretariat estimated that several trillions of USD per year were needed to finance an ambitious post-2015 development agenda[11]. The reasons underpinning the private sector reluctance to invest in developing countries have been subject to a vast literature. Weak institutions and governance, corruption, political instability or conflicts, have been exhibited as major factors making investors cautious to invest in the developing world. One can ask if this risk-perception is rational or not, but the empirical fact is that capital, when available, remains very costly for many developing countries, negatively affecting growth, weighting on poverty reduction and job creation. Risk is closely related to instability and volatility. The more private investors feel confident about investing, the more they are prone to pay. But as macroeconomic or microeconomic risks increase, investors ask for a financial compensation compared to a risk-free situation. When providing equity, guarantees or loans, this higher risk translates into higher interest rates or spreads to be paid to investors.

(5) Because development agencies and institutions have the mandate to operate within developing countries, they need to rely on a specific framework. Contrary to other business-led investors, they do not seek profit, and do not have the ability to manage their investment portfolios as the financial theory would suggest. They cannot, for instance, seek to mitigate their risks by investing in developed markets. **More specifically, in providing ODA loans below market terms, donors also bear the default risk directly on their balance sheet.** And at the very end, these unhedged liabilities weight on the sovereign balance sheet, requiring the use of public money to face the possibility of a credit event. **The regulatory framework also financially constrains development agencies and institutions, with a mandatory requirement to mobilize equity in line with counterpart risk.** The riskier the counterpart is, the more equity is needed. As a logical consequence of their activities and mandate, development agencies and institutions face more risks than private institutions.

Prevailing financial indicators for developing country markets make possible to estimate country risk spread. Higher country risk translates into higher interest rates charged by private market participants. Investors will be prone to invest in riskier securities provided their prices are adjusted for the additional risk they take compared to safer investments. For instance, if there is 50% chance that country A will default on its 5-year bond in 5 years, and if there is 30% chance that country B will default on its 5-year bond in 5 years, then bond A should be cheaper than bond B for the bond buyer. It means that interest rate paid by A should

[10] In a seminal paper (see: "Why Doesn't Capital Flow from Rich to Poor Countries?" American Economic Review, May 1990 (Papers and Proceedings), 80, pp.92-96), Robert Lucas pointed out that the rate of return in India was at that time 58 times higher than in the US. Based on neoclassical growth models and free trade assumptions, India would have been expected to see net capital inflows until rate of returns between investments were equalized.

[11] http://www.un.org/en/development/desa/policy/untaskteam_undf/

be higher than the one paid by B, so that investors are compensated for the additional risk they take[12].

Sovereign bond prices are naturally affected by the ability of the government to repay its debt, which closely depends on its debt/GPD ratio, its projected revenues and public spending, but also on a wide range of other factors like the current account balance, the projected growth and inflation rates, the foreign debt level and the currency exposure, the level of foreign reserves and the exchange rate regime, as well as the perceived country political context and other potential fragilities.

2.1 Calculating country risk spreads based on hard currency bond issuances in developing countries

A simple approach[13] to estimate the risk spread charged on sovereign bonds is to calculate the difference between a risk-free interest rate and the sovereign bond rate, both at same maturity and currency. Typically, investors consider as risk-free US bonds or very well-rated European bonds. For countries where sovereign bonds exist and are traded on a secondary market, one can easily calculate the country risk spread.

The table below presents some foreign currency bonds issued recently by developing countries. The corresponding risk spreads are calculated by netting out the risk-free interest rates of the bond yield, taking into account bond maturity (10-year or 5-year US benchmark in most of the cases). To some extent, hard currency bond issuances have been gaining traction in the past few years, because of exceptional financing conditions in developed markets. But the scope of these operations remains limited, especially when it comes to very poor countries, and the country risk spread asked by investors remain very high. One should also note that the longest maturity in the table below is 10 years. And in some cases, when investors do not feel confident with longer-term fiscal and economic perspectives, maturity can decrease to 5 years or even less. This should be compared to ODA loan average maturity provided by DAC members, which is found to be well beyond 20 years (see sections below).

[12] The extent to which investors should be compensated according to the degree of risk they take is another and more complex question. When investors price bonds by equalizing expected profits, the pricing is said to be risk-neutral. In practice, market investors are more risk-adverse: when investing in riskier securities, they want to be more compensated than just equalization of expected profits. The interest rates / risk curve is not a linear one.

[13] Another approach to estimate country risk premiums would be to look at credit default swaps (CDS). A CDS is a contract where a counterpart agrees to pay a fee, each year generally, against the promise to be reimbursed by the other counterpart in case of credit event on a well-defined entity. For instance, a 5y5y CDS on the Venezuelan debt provides an insurance that the CDS holder will be reimbursed if a credit event occurs on the 5y Venezuelan bond during the next 5 years. Combining a sovereign bond with the corresponding CDS should then provide a risk-free security, the premium paid for holding the CDS reflecting the cost of being insulated from default risk of the underlying security. CDS prices can then be considered as a measure of sovereign credit risk. However, one should use these data with caution, because for many countries CDS markets are too narrow to be considered as representing the best market measure of the credit risk, not to mention the fact that regulatory issues bring more complexity into the picture. Last but not least, when it comes to developing countries, CDS prices are most of the time not available. We then argue here that it is more reasonable to focus on country spreads to calculate country risk premiums.

Table 1 – some hard currency bond issuances in developing countries and associated risk spreads

Issuer	Region	Maturity	Bond yield	Risk-free rate	Spread	DAC category	Rating	Issuance date	Maturity date	Currency	Issued amount
Albania	Europe	5	7.50%	1.10%	6.40%	UMIC	B	2010	2015	euro	300M
Angola	Sub-saharan Africa	7	7.00%	1.34%	5.66%	LDC	B+	01/08/2012	2019	dollar	1bn
Armenia	Europe	7	6.25%	1.75%	4.50%	LMIC	BB	2013	2020	dollar	2bn
Belarus	Europe	5	8.75%	3.19%	5.56%	UMIC	B-	2010	2015	dollar	1bn
Belarus	Europe	7	8.95%	2.07%	6.88%	UMIC	B-	2011	2018	dollar	800M
Gabon	Sub-saharan Africa	10	6.38%	2.33%	4.04%	UMIC	BB-	01/12/2013	2024	dollar	1.5bn
Gabon	Sub-saharan Africa	10	8.20%	4.63%	3.57%	UMIC	BB-	2007	2017	dollar	1bn
Ghana	Sub-saharan Africa	10	8.00%	2.33%	5.67%	LMIC	B	2013	2023	dollar	750M
Ghana	Sub-saharan Africa	10	8.50%	4.63%	3.87%	LMIC	B	2007	2017	dollar	750M
Ivory Cost	Sub-saharan Africa	10	5.63%	2.67%	2.96%	UMIC		01/07/2014	2024	dollar	750M
Kenya	Sub-saharan Africa	5	5.88%	1.33%	4.54%	LIC	B+	01/06/2014	2019	dollar	500M
Kenya	Sub-saharan Africa	10	6.88%	2.67%	4.21%	LIC	B+	01/06/2014	2024	dollar	1,5bn
Mozambique	Sub-saharan Africa	7	8.50%	2.00%	6.50%	LDC	B+	2013	2020	dollar	500M
Namibia	Sub-saharan Africa	10	5.75%	2.76%	2.99%	UMIC	BBB-	2011	2021	dollar	500M
Nigeria	Sub-saharan Africa	5	5.38%	1.17%	4.21%	LMIC	BB-	2013	2018	dollar	500M
Nigeria	Sub-saharan Africa	10	6.63%	2.33%	4.29%	LMIC	BB-	2013	2023	dollar	500M
Nigeria	Sub-saharan Africa	10	7.00%	2.76%	4.24%	LMIC	BB-	2011	2021	dollar	500M
Pakistan	Middle East	10	8.25%	2.67%	5.58%	LMIC	B-	01/04/2014	2024	dollar	1bn
Pakistan	Middle East	5	7.25%	1.33%	5.92%	LMIC	B-	01/01/2014	2017	dollar	1bn
Pakistan	Middle East	5	8.50%	2.13%	6.37%	LMIC	B-	2004	2009	dollar	500M
Rwanda	Sub-saharan Africa	10	6.88%	2.33%	4.54%	LDC	B	2013	2023	dollar	400M
Senegal	Sub-saharan Africa	5	9.25%	3.24%	6.01%	LDC	B+	31/12/2009	2015	dollar	200M
Serbia	Europe	5	6.15%	1.10%	5.05%	UMIC	BB-	30/11/2013	2018	dollar	1bn
Serbia	Europe	3	4.88%	1.10%	3.77%	UMIC	BB-	2013	2016	euro	30M
Sri Lanka	Asia	5	5.13%	1.33%	3.79%	LMIC	B+	01/04/2014	2019	dollar	500M
Sri Lanka	Asia	5	6.00%	1.33%	4.67%	LMIC	B+	01/01/2014	2019	dollar	1bn
Sri Lanka	Asia	5	8.25%	2.31%	5.94%	LMIC	B+	2007	2012	dollar	
Sri Lanka	Asia	5	7.40%	1.62%	5.78%	LMIC	B+	2009	2014	dollar	
Sri Lanka	Asia	10	5.88%	1.79%	4.09%	LMIC	B+	2012	2022	dollar	1bn
Sri Lanka	Asia	10	6.25%	2.76%	3.49%	LMIC	B+	2011	2021	dollar	1bn
Tanzania (private placement)	Sub-saharan Africa	5	6.50%	1.17%	5.33%	LDC		2013	2020	dollar	600M
Zambia	Sub-saharan Africa	10	8.63%	2.67%	5.96%	LDC	B+	2014	2024	euro	1bn
Zambia	Sub-saharan Africa	10	5.63%	1.79%	3.84%	LDC	B+	2012	2022	dollar	750M

Source: Reuters, Bloomberg, and author's calculation.

When there are outstanding foreign currency bonds, it is easy to calculate a risk spread. Nevertheless, some developing countries have never issued foreign currency bonds, or have currently no outstanding foreign currency bonds. In these cases, it is still possible to easily approximate country spreads.

2.2 Damodaran's approach to calculate country risk spreads

To overcome the issue of no-market access countries, Damodaran[14] builds a table crossing sovereign rating and his own calculation of country risk spreads, which is also based on outstanding foreign currency bonds. The assumption underlying such a linkage is that a country rated BBB by a credit rating agency (CRA) which never issued sovereign bonds is facing the same country risk spread than a BBB country with outstanding sovereign bonds. This assumption looks rather optimistic (by construction, perceived risk for no market access countries is likely to be higher than for those countries like Egypt of Brazil which regularly issue foreign currency bonds). Some countries rated by CRAs are typically considering issuing international bonds, but at this stage have not been able to do so (Bangladesh for instance, a BB- rated country, made several announcements it was considering issuing 3/5y maturity Eurobonds, but no such issuance has been done so far).

But many developing countries are not rated by CRAs. The table below shows the percentage of developing countries rated by Standard & Poors and Moody's, for each income group of the DAC List of ODA Recipients. There is a clear and positive correlation between the share of rated countries and the DAC country grouping (or GDP per capita). Less than 25% of LDCs and other LICs are rated, whereas more than two-thirds of lower middle-income countries (LMICs) and UMICs are rated by CRAs. Consequently, for more than 75% of LDCs and LICs, it is not possible to calculate a risk spread through this approach. Missing ratings for many LDCs, LICs and LMICs are just reflecting the fact that these countries are not in a position to tap international markets. In providing financing to these countries, donors are making a financial effort that must be considered in that specific perspective. Theoretically, the discount rate that should be used to assess financial cost and effort of donors in a country that doesn't have access to market finance is infinite: the simple fact to provide a loan could be deemed concessional, since no other lenders are undertaking such investments.

To overcome this issue of no-market access countries, we suggest using for them a high risk spread. For simplicity, we chose 1000 basis points (one should note that it is not the highest market based spread; some CDS are trading well above 10%; 10% is also the country risk spread associated to poorly rated countries in Damodaran's database[15]).

More generally, for the sake of clarity and simplicity, we propose to estimate risk spreads by country groups, as defined in the DAC List of ODA Recipients, rather than for individual countries. From an operational point of view, it would be very complicated for donors to manage a system where risk spreads would vary from one country to another and each time CRAs revise their assessment (not mentioning the fact that such a system would probably rely too extensively on CRAs assessments). We find that risk spread diminishes as the average level of income increases, which is consistent with individual market-based risk spreads presented in table 1[16].

[14] See http://pages.stern.nyu.edu/~adamodar/. Much of Damodaran's data came from the biggest data providers such as Bloomberg. Bloomberg is a private company that is providing financial data (indicators, news, pricing, and so on) through a user friendly interface. Even if the company provides its own proprietary data and tools, it also broadcasts a huge amount of financial time series and indicators that are publicly released and widely used elsewhere. Sovereign interest rates as well as CDS time series are basic indicators that are published on Bloomberg, but that are also generally made publicly available online.

[15] 1000 basis points is the risk spread for Caa3/CCC- rated countries. In table 1, calculations were done with such a spread for missing spread LDC/LIC and LMIC countries.

[16] A wider database of hard-currency bond issuances would be necessary in order to compute robust enough average risk spreads based on market data.

Table 2 – 10y risk spreads by DAC recipients' country groups

	LDCs & LICs	LMICs	UMICs
Number of countries & territories	54	41	54
Number of rated countries & territories	13	27	42
% of rated countries & territories	24%	66%	78%
Average risk spread	**8,7%**	**6,3%**	**3,4%**

2.3 Calculating risk-adjusted discount rates

The donor funding costs should be added to the country spreads so as to generate the risk-adjusted discount rates. Those funding costs should appropriately reflect the maturity of development loans. **There is a strong case for taking into account loan maturity in risk-adjusted discount rate.** Although the country risk should depend on the maturity of financing, it seems too complicated, if workable, to adjust each discount rate based on loan terms. The table below shows the average maturity of ODA loans provided by DAC donors during previous years:

Table 3 – Average maturity of ODA loans (2006-2012; source: DAC statistics)

	2006	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*
Average maturity (commitment-weighted)	33	33	32	32	32	31	30
Average maturity (arithmetic)	28	27	25	27	26	26	25

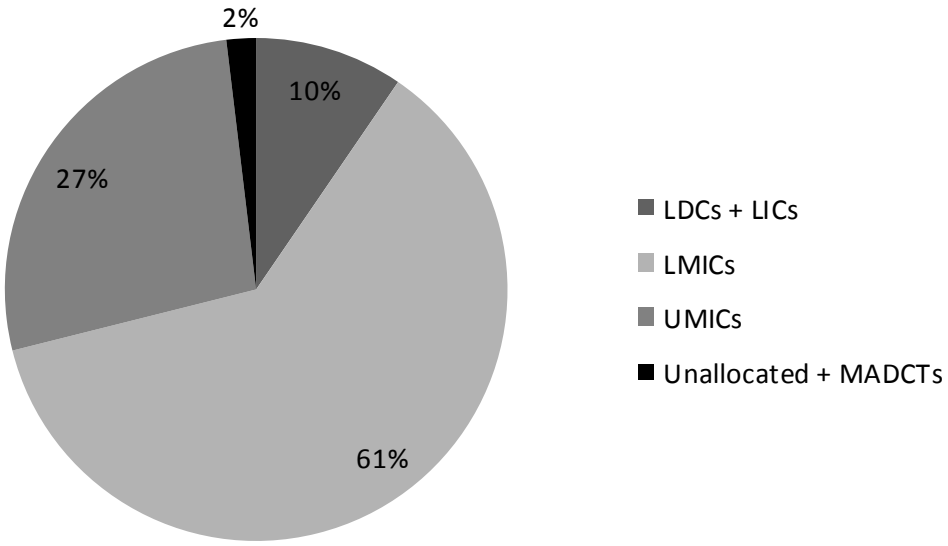
When taking into account the committed amount, the average maturity of loans provided by donors appears to be very long, more than 30 years. Simply averaged on maturity, donor loans proved to be slightly above 25-year maturity. These financial terms show that there is a strong case for adjusting upward the risk-adjusted discount rate so as to take into account the very long maturity of concessional finance[17]. Such an adjustment could be proposed by the DAC secretariat based on further explorations of long-term finance conditions. One can also note that international currency bonds issued by most of the developing countries do not exceed the 10 years maturity. This highlights the concessionality embedded in donors' loans when compared to private sector bond pricing.

3. Incentivizing long-term financing to low or no market access countries

In comparison with the current system where all loans are discounted at 10%, moving towards a risk-adjusted discount rate system will be a better recognition of donor efforts towards countries with low or no market access. In better reflecting long-term finance provided to LDCs, it will incentivize donors to work more with these countries, while taking due respect of the IMF/WB debt sustainability framework. There is a strong case for providing, when possible, more long-term capital to LICs. The graph below shows that only 10% of concessional loans were allocated to LDCs and LICs over the 2006-2012 period, while commitments towards LMICs and UMICs were representing 61% and 27% of total commitments, respectively. DAC donors' loans to LDC/LICs do not only bring soft resources. They also enhance a practical economic dialogue on debt, in addition to and reinforcing the dialogue between the country and the WB/IMF. This is particularly important at a time when developing countries are more and more solicited by donors external to the DAC who may be less familiar with the WB/IMF debt sustainability framework and did not experience the past debt restructuring initiatives.

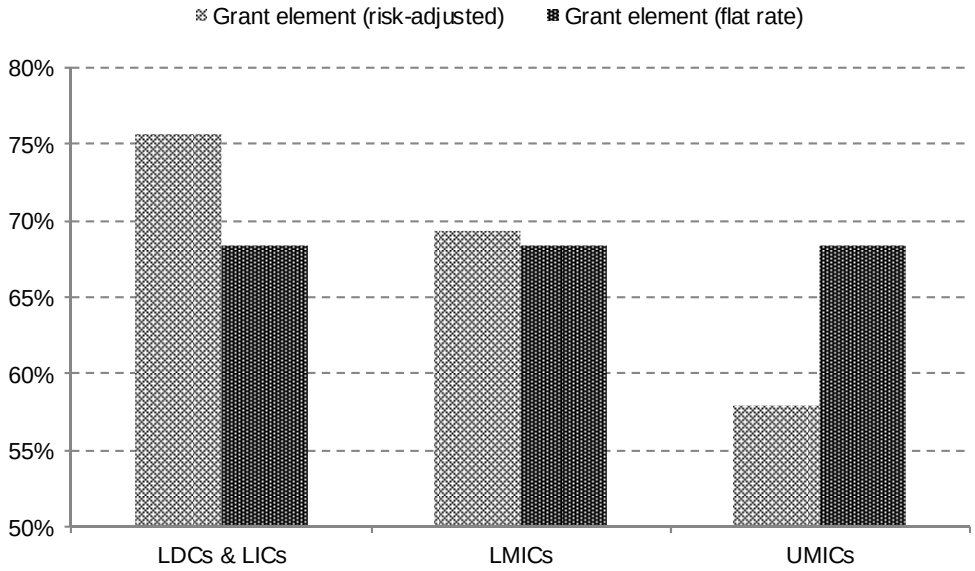
[17] On average, the yield curve is steep, so that the longer the maturity of a loan, the higher the rate.

Chart 1 – % share of ODA loan commitments by DAC country groups (2006-2012; source: DAC statistics)



Donors have been reluctant to invest in LDC/LICs because of factors explained above (see paragraph 1). It seems that donors have been incentivized to extend loans to UMICs rather than to LICs. Figure 2 below illustrates this point and shows that differentiating discount rates depending on DAC country groups could help in restoring incentives to operate within poorest countries compared with a flat rate system. Grant elements for a 30-year loan extended at a 1% interest rate are calculated in a flat rate system as well as in the risk-adjusted system, for LICs and LDCs, LMICs, as well as UMICs. **Moving towards a risk-adjusted system would lower the grant element of UMIC loans by 10 percentage points. LMICs grant element would remain approximately the same, while LDCs & LICs grant element would increase by 10 percentage points. Associated to a grant-equivalent reporting framework, such a system would be more representative of the effort made towards LDCs and LICs.**

Chart 2 – Incentives to provide long term finance to LDCs and LICs in a flat rate (10%) vs risk-adjusted system



Grant-element is calculated for a 1% interest rate loan, 30y maturity and 5y grace period, when extended to LDCs & LICs, LMICs, and UMICs. Flat rates as well as risk adjusted discount rates presented before have been used. Cost of funding was set at 4%.

A flat discount rate such as the 5% discount rate used in the IMF/WB debt sustainability framework (which serves different purposes and which is currently under review) would exacerbate incentives to provide long-term financing to UMICs and poses risk that bilateral donors cut their long-term concessional financing towards LMICs, LDCs and LICs. For instance, in a 5% flat discount rate system, a long-term loan to the Sierra Leone at a 1% interest rate would bear exactly the same grant element as a similar loan to China, whereas donor implementation costs, risks and efforts in those two examples would largely differ. As a result, there are strong disincentives to operate with LDCs and LICs in a flat rate system such as the 5% discount rate. In such a situation, especially if discount rates are not reflecting the cost of lending to LDCs and LICs, there is a significant risk that either nobody fills the long-term finance gap, or that it will be filled by the private sector at harder terms, thus possibly worsening debt sustainability prospects.

Box 1: Long term concessional finance towards LDCs: example of an AFD (Agence française de développement – French development agency) loan to local Burkinabe company Sonabel

Among the few DAC members' loans to LICs, a typical example is the electrical inter-connection between Ghana and Burkina Faso, co-funded by AFD in 2012 through a 18.6 M€ soft loan to the Burkinabe power company Sonabel, to increase by 50% the availability of power in Burkina and reduce operating costs. In addition to high economic profitability for the local company (12% return rate) and local job creation, the project is also bringing important social and environmental benefits to the population, contributing to strengthen regional integration.

This LDC loan was extended at an extremely low interest rate of 0.76% over 15 years, including a 5-year grace period. Though a non-sovereign funding, concessionality against the IMF discount rate (5.7% at that time) was over 35%, respecting the WB/debt limit policy and representing 55% grant-element in the DAC system, well over the DAC 25% eligibility threshold. To do so, the French government provided 600 basis points of direct subsidy, due to the high cost of making loans in an LDC: heavy technical preparation, high instruction costs, overhead, and country and counterpart risks. As a comparison, the best recent access to private capital market by a West African CFA-franc zone country (Senegal) was above 6% over 5 years, without grace period. Against a risk-adjusted discount rate (cost of funding + risk), the grant element of the Sonabel loan would be approximately 64%, a realistic estimate of the cost for the donor, as well as of the "benefit" for the recipient (hard currency markets do not exist in Burkina Faso).

Other examples of such loans by AFD to LICs or LDCs in 2012 include two projects in Niger, of 11 and 15 M€, respectively priced at 1.07% and 2.16%, and two 40 and 50 M€ projects in Mozambique, priced at 1.41% and 2.19%. All of them carried long maturities and grace periods, making them concessional above 35% at IMF discount rate, which means grant elements around 60% with the current 10% DAC discount rate.

4. Safeguards and thresholds to be considered for LICs and LDCs

Some DAC members and observers have argued that moving towards a risk-adjusted discount rate could pose risk to debt sustainability in LDCs and other LICs. A few of them have even mentioned that a risk-adjusted system would deliver wrong incentives because donors would have more space to enter in a profit-oriented scheme. A quick look at the data available today shows the opposite. In the current 10% discount rate framework, a loan must meet, among other criteria, the 25% grant element threshold to be reported in the DAC statistics. For a 30-year loan with 10-year grace period, which represents the average loan donors have been extending to LDCs in the past few years, the maximum interest rate to pass the 25% concessionality test is 7.0%. In practice, the average interest rate charged by donors, calculated on more than 280 loans extended between 2006 and 2012, was 0.6%. It is more than 600 basis points below the maximum interest rate allowed in the current OECD/DAC framework. The average grant element of these loans is 78%, more than 50 percentage points above the 25% limit.

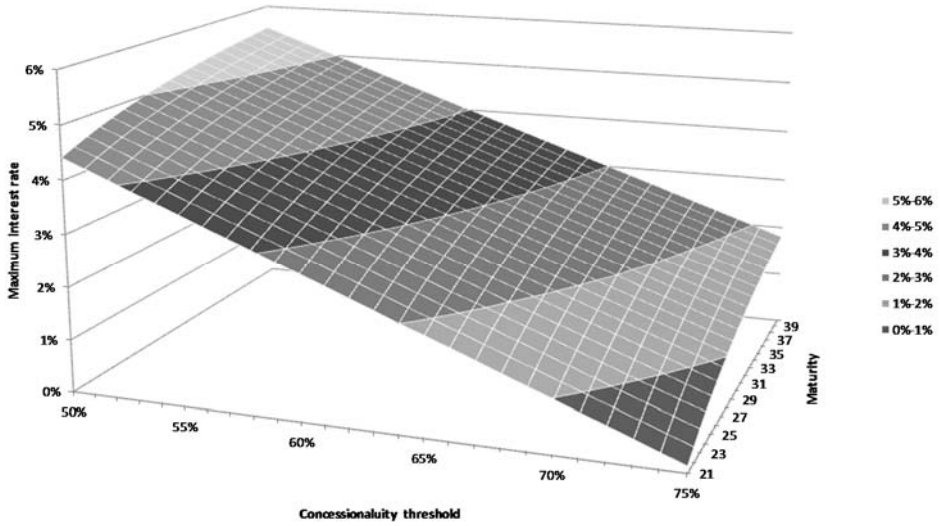
Table 1 – Financial terms of committed ODA loans between 2006 and 2012 (source: DAC statistics)

	LDC / LIC loans	All ODA loans
Number of loans	284	1 884
Amount committed (in MUS$)	10 370	108 633
Grace period	10	8
Maturity	33	27
Interest rate	0,6%	1,3%
Grant element (10% discount rate)	78%	66%

These figures demonstrate that donors have been operating in LICs at exceptional lending conditions, much more concessional than the 25% grant element threshold required by DAC rules to report a loan as ODA. Said differently, donors have not tried to lend at harder terms in LICs because they were riskier countries. Instead, they extended highly-concessional financing compared to what the private sector has been offering to these countries, seriously taking into account sustainability as well as development levels issues.

That being said, setting a concessionality threshold for LIC/LDC loans would have some merits. For instance, in addition to the IMF/WB debt sustainability framework and the IMF debt limit policy, a concessionality threshold (50% for instance) for reporting ODA loans[18] to LDC/LICs could ensure that financing provided to these countries, generating ODA, will necessarily have a very substantial grant element. With such a concessionality threshold, the interest rate on LDC/LIC loans will de facto be capped to a certain level, depending on maturity and grace period. The 3D surface below illustrates this point, showing the maximum interest rate for a loan to be counted as ODA in a risk-adjusted discount rate system, given concessionality threshold and maturity. All points below the surface are representing acceptable combinations of interest rates and maturity, whereas the region located above the surface represents combinations generating grant-element that would not be reported as ODA. Such a threshold should nonetheless be fixed in not too strict terms. A too high threshold for LDCs and LICs could severely impede risk-adjusted incentives to concentrate more efforts in these countries (see box below).

Figure 3 – Maximum interest rate, given concessionality threshold and maturity (source: author's calculation)



Funding cost was set at 4%, risk spread at 9% (according to findings presented in previous sections), with a 5y grace period.

[18] The grant element of the loans would be reported after being calculated with a risk-adjusted discount rate as proposed before.

Box 2: ODA loans and IMF debt limit policy in LDCs & LICs: is there scope for a one-size-fit all approach?

OECD DAC directives on the reporting of ODA loans say nothing on debt sustainability. Donors extending loans to developing countries are responsible for analyzing debt constraints and ability to repay before providing financing.

As a new important pillar of its macroeconomic surveillance mandate, the IMF introduced in 2005 a mechanism to assess debt sustainability in low income countries, taking into account both public sector and external debt. Debt sustainability analysis (DSA) deliver 4 possible flags informing on the degree of debt sustainability - it can flag a country as in a "low", "intermediate", or "high" risk of debt distress, or as "in debt distress". DSA results aim to "guide borrowing decisions of low income countries in a way that matches their need for funds with their current and prospective ability to service debt, tailored to their specific circumstances" [19]. DSA also informs donors and other participants on debt capacities of the recipient country. Many bilateral agencies extending loans, such as Agence Française de Développement, have been mainstreaming the joint IMF/WB DSF within their operational lending framework.

The IMF debt limit policy (DLP) is another important pillar of the IMF guidelines on development financing. This policy only applies to IMF-supported program countries, asked not to accept financing below specific concessionality requirements and/or not meeting specific debt limits. The DLP is also a requirement for donors and others participants to provide financing according to existing debt limit in IMF-supported countries. Like DSA, debt limits and specific concessionality requirements have been mainstreamed within bilateral and multilateral agencies extending loans.

The DLP was refined in 2009 so as to better take into account country specificities and avoid one-size-fits-all approaches. Flexibility was sought in order to move from a "single design of concessionality requirement towards a menu of option", with a view to "take greater account of the diversity of situations faced by LICs"[20]. LICs with a relatively higher capacity to manage public resources have been granted with more flexibility in terms of concessionality requirements. With pre-2009 DLP, concessionality limit was assessed on a loan-by-loan basis. With 2009 DLP, a financing package consisting of a non-concessional loan (based on IMF terms) and technical expertise financed through grants, could be deemed as concessional as a whole. Average grant elements rather than single grant elements are considered, which provides more flexibility for project financing. The concessionality threshold for concessional borrowing has also changed from a uniform and "historical" 35% threshold to a variable threshold, based on recipient countries debt sustainability and administrative capacities. As of September 2014, Afghanistan, Burundi and Sao Tomé and Principe had concessionality requirements higher than 35%[21].

In a nutshell, one could say that the Fund have been durably seeking for a more flexible approach in terms of debt limits and sustainability, progressively taking into account more country specificities, so as to strike the best balance between maintaining access to external funds and sustaining growth, and ensuring debt sustainability. In that context, a "crude" widening of the IMF DLP to all DAC-concessional loans to LDCs & LICs, as some observers have been calling for, would be for the DAC to lean against the wind of flexibility the Fund has been looking for. Such a restrictive policy would unduly constrain LICs that have no risk of debt distress and are not financially IMF-supported. For these countries, which would then be considered as IMF-supported program countries, it would probably kill a substantial amount of DAC-concessional loans, and might reverse the incentive structure set by differentiating discount rates. It is also worth noting that bilateral creditors would be less incentivized to provide concessional financing, while part of it could fit the non-zero debt limit policy on non-concessional borrowing (in IMF terms). Given the current IMF discount rate and minimum concessionality thresholds, it would mean for instance that a 5y/20y loan with 1.5% interest rate wouldn't be ODA-reportable. Last but not least, since the IMF DLP only applies to loans extended to the public sector, its extension to all LICs as well as to all loans would require some loans to the private sector (for instance to private microfinance funds) to be excessively subsidized to score as ODA.

[19] See http://www.imf.org/external/pubs/ft/dsa/lic.aspx.

[20] See "Changing Patterns in Low-Income Country Financing and Implications for Fund Policies on External Financing and Debt", IMF (2009).

[21] See http://www.imf.org/external/pubs/ft/dsa/dsalist.pdf for the last IMF update.

One should also bear in mind that grant element thresholds are not the best way to look at debt sustainability issues. Grant-element are computed on committed loans, and are not a measure of debt sustainability per se. Debt sustainability is more consistently related to current outstanding debt, because outstanding debt informs on the nominal value debtor is obliged to the creditor. Debt present value is also another way of looking at liabilities, taking explicitly into account the time factor, the amortization profile as well as the funding costs through the discount rate (for instance, one could imagine to discount flows based on projected nominal structural growth rate, which would illustrate the fact that correctly servicing your debt is much more easier and likely when projected nominal growth increase, other things being equal).

5. LDCs & LICs thresholds and the 'ODA tradeoff' argument

A concessionality threshold for LDCs & LICs would make impossible for donors to enjoy the same ODA level when lending to LDCs & LICs with higher interest rate as when lending to MICs at same terms. Although we cast serious doubt on the practical feasibility of such a 'tradeoff', as well as on the view that donors would in reality seek to make profit in LDCs and LICs[22], it is worth noting that any ODA accounting system less rewarding loans toward richest developing countries necessarily embeds this technical possibility. An easy way to get away of such 'tradeoff' is to require a concessionality test for LDCs & LICs to be passed, ensuring that donor loans to these countries will remain very concessional, as it is today.

The series of figures below illustrate it. In the four graphs, we represented the grant element of a 20y loan, 5y grace period, depending on the DAC category of the recipient country[23]. In figure 4.a, one can note the negative relationship between ODA and the loan interest rate[24]. The ODA/interest rate curve is downward slopping, according to the ODA grant equivalent measurement. Higher interest rate means less ODA in any case, making donor effort much better proxied than in the current cash-flow system. In addition, differentiating the discount rate is a better recognition of donor effort toward the poorest countries. In figure 4.b, the LDC/LIC curve is above the UMIC curve for any interest rate, which is the desirable feature of a risk-adjusted grant-element reporting system.

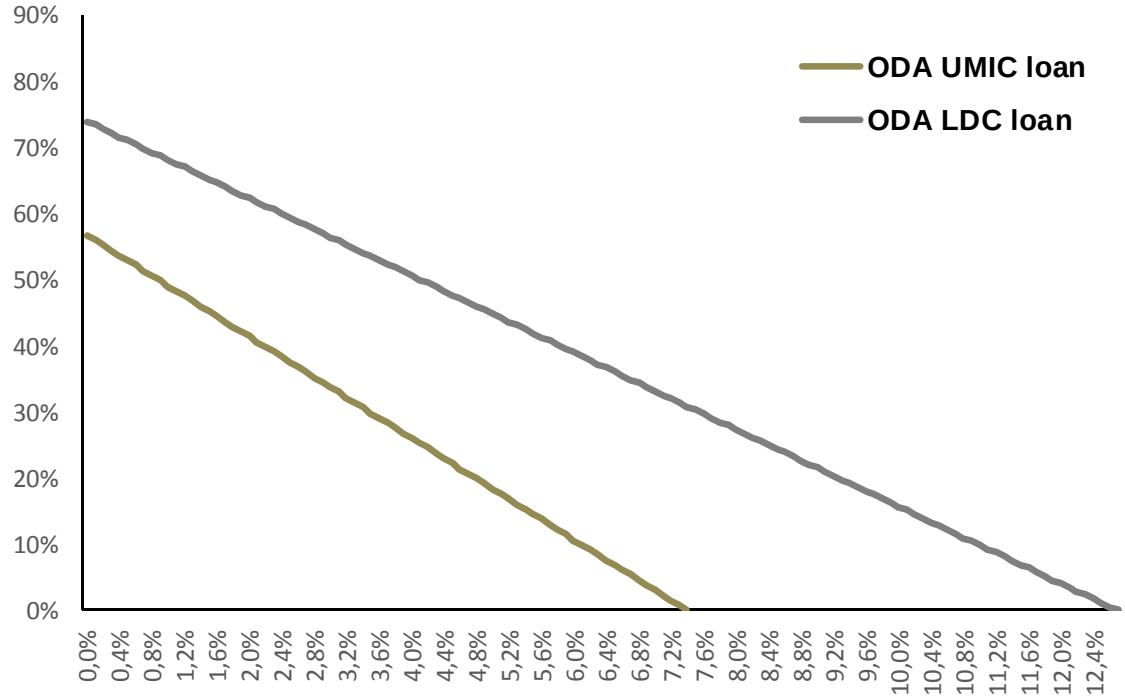
In figure 4.c, one can observe how a concessionality threshold for LDC/LIC would *de facto* cap the maximum interest rate on loans to these countries. The dashed line in the right side of the graph represents all interest rates such as the loan grant element would be below the concessionality threshold (here arbitrarily taken at 40%). The left, brown-shaded area, encompasses all points where a 'tradeoff' between (i) a UMIC loan, generating a given ODA level; and (ii) an LDC loan, generating the same ODA but with higher interest rate - is no more possible, because of the LDC/LIC concessionality threshold. With a 40% threshold, available space where this theoretical tradeoff still exists is very constrained and corresponds to unrealistic interest rates for the richest developing countries. Slightly increasing the threshold would remove the theoretical tradeoff. In graph 4.d, no point on the UMIC curve has its ODA-equivalent on the LDC curve, because of the threshold.

[22] Some observers, like David Roodman, fear that DAC members could use risk differentiated discount rates to take profit on loans to poor countries (see for instance http://davidroodman.com/blog/2014/11/10/an-aid-loan-is-not-just-a-throw-of-the-dice/). The profit argument is, in our view, irrelevant. It is addressed in Table 1 above.

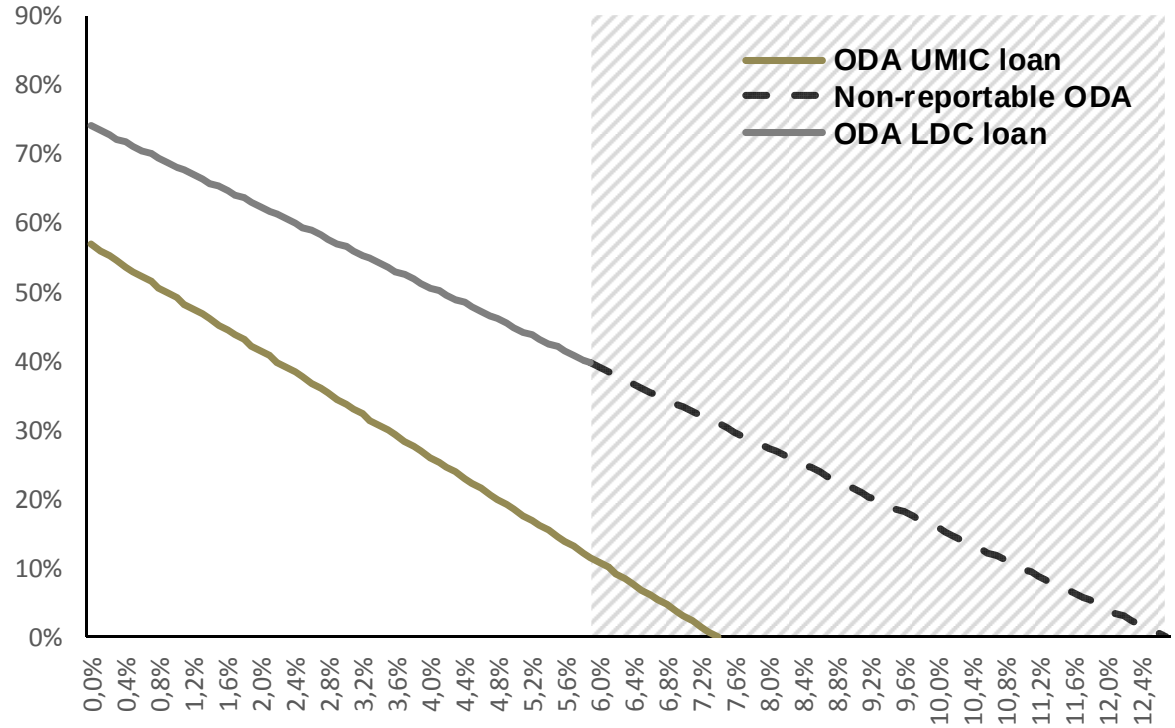
[23] The grant-elements are calculated based on previous findings regarding the discount rate (12.7% for LDCs & LICs, 7.4% for UMICs). 20y maturity represents the average maturity at which donors have been lending to UMICs during last years.

[24] Assuming a 1$ loan, ODA is equal to the loan grant element.

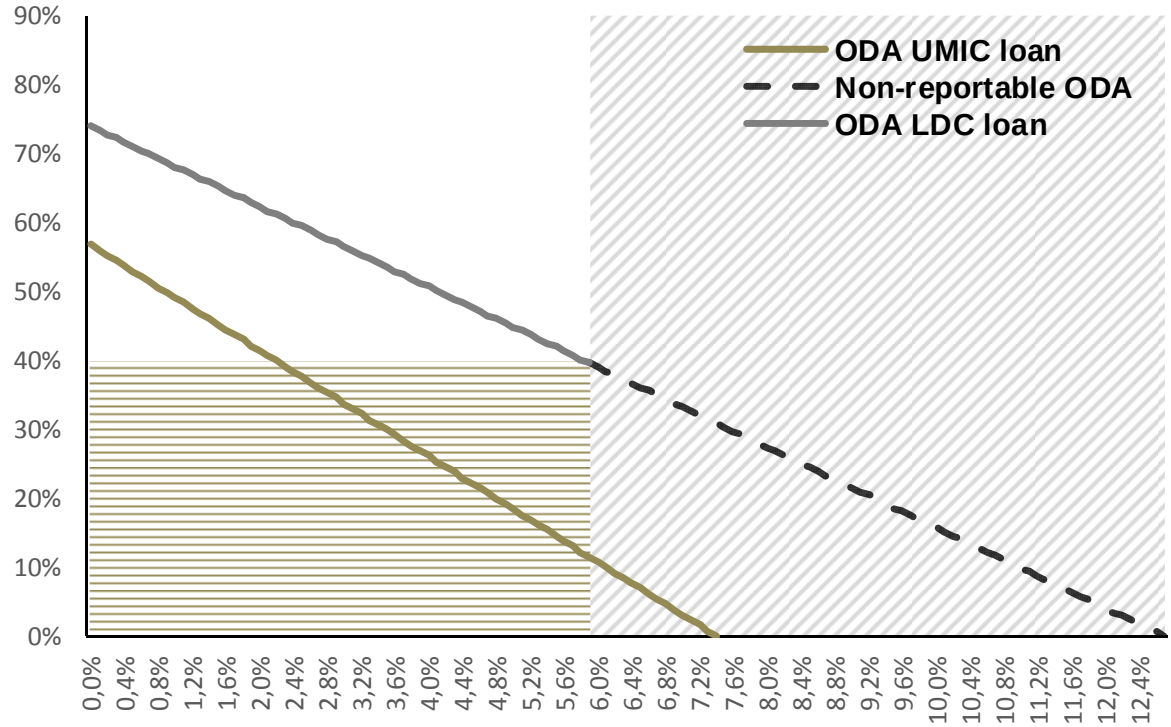
Graph 4.a – Grant-element when lending to LDCs and UMICs (x-axis: loan interest rate; y-axis: grant-element)



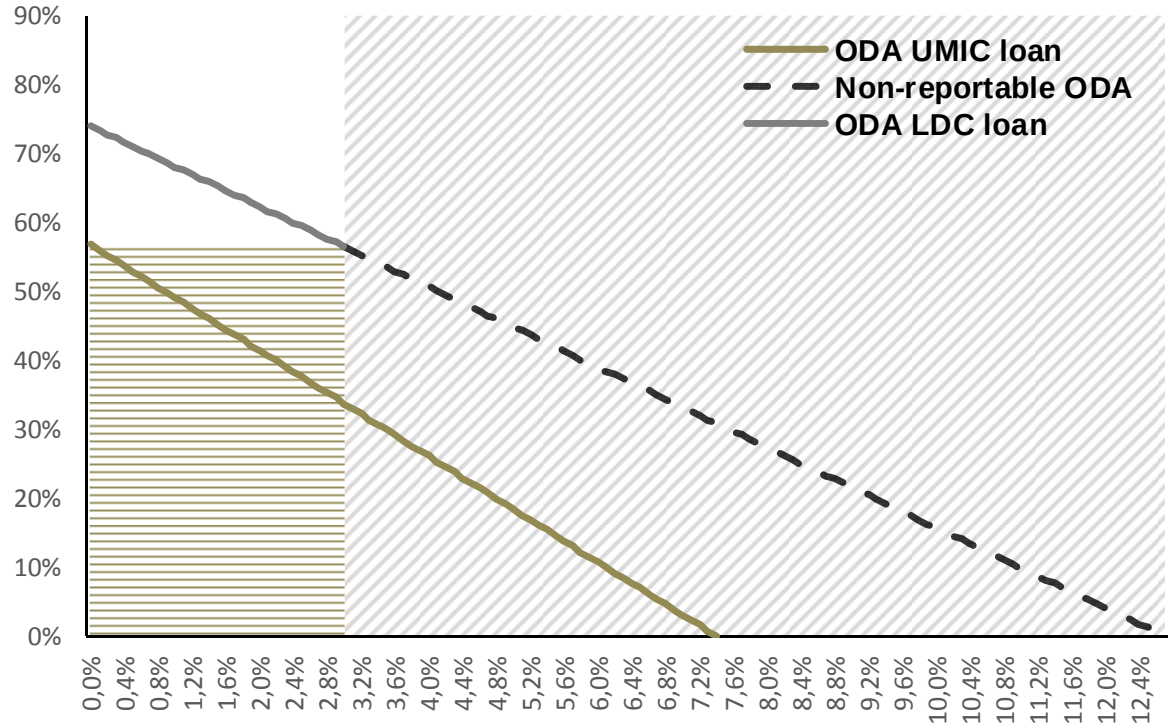
Graph 4.b – Impact of a concessionality threshold in LDCs & LICs (x-axis: loan interest rate; y-axis: grant-element)



Graph 4.c – Limited scope of the "tradeoff argument" with a 40% threshold (x-axis: loan interest rate; y-axis: grant-element)



Graph 4.d – 'Tradeoff' is no more valid because of the threshold (x-axis: loan interest rate; y-axis: grant-element)



5.1 Reporting on guarantees in a risk-adjusted framework

The above-mentioned risk spreads could also be used in order to record the grant element of guarantees and other financial instruments like equities. The grant element of a guarantee should be assessed through the comparison of (i) the price of the guarantee provided by the donor; (ii) the price of the guarantee that would have been provided by profit-oriented market participants (i.e. the private sector). Generally, the price of a guarantee is expressed in basis point of the guaranteed nominal amount, and this premium has to be paid periodically, for instance each year. Moving toward a DAC system based on cost of funding and risk would allow to directly define a market-based price of guarantees in order to assess the grant element of donor guarantees. Provided donor would have extended guarantees below the reference rate to be derived from the DAC reference rate, they should be deemed concessional.

Box 3: Reporting the grant element of guarantees in a risk-adjusted system

For a guarantee extended by the private sector (PS), a recipient country would have to pay each year the following amount:

$$\text{Amount to be paid to a private sector guarantee provider} = N \times \text{PS premium}$$

Where N is the amount covered by the guarantee and *PS premium* the premium to be paid by the recipient country to the private sector, expressed in %. PS premium can be expressed as follows:

$$\text{PS premium} = \text{cost of risk} + \text{capital cost} + \text{operating cost}$$

The DAC country group risk spreads introduced before offer a very good proxy for the cost of risk. Nevertheless, it should be adjusted to take into account the maturity of the guarantee. Capital cost could be calculated as the cost of provisioning funds and/or regulatory costs. To keep the analysis simple, we assume it is zero in our example, as well as the operating cost. Then, as a first approximation, the PS premium could be taken equal to the risk adjustment calculated previously. In such a system, we would assume that a guarantee extended by the private sector would have entailed for the country recipient an amount to be paid yearly equal to:

$$\text{Proxied amount that should have been paid to a private sector guarantee provider} = N \times \text{risk adjustement}$$

Development agencies are typically pricing their guarantees below market prices. They generally ask for a very small premium to be paid each year:

$$\text{Amount to be paid to a development agency} = N \times \text{premium to be paid to the development agency}$$

Then, we end up with a very simple system. The guarantee would be deemed concessional if extended such as:

$$\text{premium asked by development agency} < \text{risk adjustment factor}$$

Provided this concessionality test is passed, one can directly compute the grant-element (GE):

$$GE = N \times (\text{risk adjustment factor} - \text{premium asked by development agency})$$

This grant element could be calculated each year and reported as such by DAC members extending guarantees.

6. Better reflecting donor efforts to support the private sector

Concessional finance towards the private sector could be reflected in a risk-adjusted DAC concessionality framework. Because country risk spreads presented here are based on a sovereign analysis, a complementary adjustment could be necessary to better take into account concessional private sector operations. Possible avenues range from adjusting the discount rate for each of donor operations with the private sector, to a single adjustment of risk-adjusted discount rates so as to take into account a sovereign / private risk spread. If exceptions do exist, on average international bonds, equities and guarantees issued by the private sector are priced with a premium compared to sovereign or public entities.

7. Conclusion

Figures presented above show that long-term concessional resources could be further directed towards LDCs & LICs. Yet, high-yield private finance has been gaining some traction in these countries, benefiting from exceptional financing and liquidity conditions in developed markets due to the current very accommodative monetary stances of the main central banks in the world. Many developing countries have been recently borrowing in hard-currency at rates close to 10%, for maturities that do not exceed 10 years. The IMF recently warned on such moves, calling for paying attention to debt sustainability issues[25].

Adopting a risk-adjusted discount rate for a renewed and modernized ODA reporting system based on the grant equivalent of loans and other financial instruments would change current incentives according to risk and effort undertaken by donor countries to carry out projects in developing countries that lack financial resources and that most need them. And, as risk tends to be very much correlated to poverty, State fragility and economic performance, it would incentivize donors to undertake more concessional operations in least advanced economies. By differentiating the discount rate by DAC country groups, donors would be more incentivized and rewarded when undertaking long-term financial operations with poorest countries. On the opposite, flows toward richest developing countries would be discounted at lower rates than at present. Basic assumptions show that the grant-element on such loans could decrease by 15 percentage points, representing a substantial ODA decrease in the short to medium-term for loan providers compared to the current framework.

Higher discount rates for LDCs & LICs does not mean higher interest rates on loans. Whereas the current discount rate is today 10%, the average interest rate on LIC ODA loans extended in the past few years is only 0.6%, with average grant element well above the current 25% threshold. Nevertheless, a new concessionality threshold for LICs, to be discussed, could be considered and introduced in the new reporting system, as a complementary measure to the IMF/WB debt sustainability framework for LICs. Such a risk adjusted system would then be fully consistent with sustainability issues. Taken together with the IMF/WB sustainability framework for LICs, it would strike a very good balance between sustainability and financing.

[25] See for instance: Anastasia Guscina, Guilherme Pedras and Gabriel Presciuttini (July 2014), "First-Time International Bond Issuance—New Opportunities and Emerging Risks". IMF *Working Paper* No. 14/127.