
Aid dimension of the Commitment to Development Index: case study of the Czech Republic

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Abstract: The Commitment to Development Index (CDI) aims to assess rich countries' policies that affect sustainable development perspectives of poor countries and to rank rich countries from this perspective. The index consists of seven components and one of them – foreign aid – is explored in this paper. We describe the methodology of the aid component and apply it to the Czech Republic. Our results show that the aid policy of the Czech Republic, as measured by the aid component of the CDI, is relatively worse than that of most rich countries. However, this is not unexpected for a transition economy that has relatively recently changed its status from the recipient of foreign aid to that of a re-emerging donor. Both quantity and quality of aid are important for the overall development impact of the Czech Republic, though the data reveal that the main determinant of CDI aid scores are the aid volumes.

Keywords: Commitment to Development Index; CDI; foreign aid; aid effectiveness; official development assistance; ODA; charitable giving; sustainable development; Czech Republic.

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1 Introduction

Despite the recent critiques on the effectiveness of foreign aid it is widely believed that aid may contribute to economic development and poverty reduction in poor countries.¹

The impact of aid depends on its quantity as well as other aspects of aid that may be grouped under the heading of aid quality. International proclamations to increase aid volumes go back to the early 1970s [with a widely-known target of 0.7% of donors' national incomes devoted to official development assistance (ODA)], while other aspects of aid have appeared on the international agenda more recently. In the last decade governments of rich countries have pledged, in several international agreements, both to increase the volume of foreign aid and to improve its effectiveness (see Monterrey Consensus on Financing for Development, 2002; Paris Declaration on Aid Effectiveness, 2005; Accra Agenda for Action, 2008). Poverty reduction and the role of foreign aid have also appeared on the agenda of sustainable development, such as at the World Summit on Sustainable Development in Johannesburg. Indeed, the Plan of Implementation (2002, p.2) agreed at the summit conceives poverty eradication (together with two other issues) both as "overarching objectives of, and essential requirements for, sustainable development". The Plan further calls for increased foreign aid which should be "more efficient and effective for poverty eradication, sustained economic growth and sustainable development" [Plan of Implementation, (2002), p.44].

With increased rhetorical emphasis on the quality of aid, a number of evaluations of donor performance emerged (see Birdsall et al., 2010; Easterly, 2002; Easterly and Williamson, 2011; Knack et al., 2011; Roodman, 2011a). These approaches do not measure the impact of aid on its recipients directly since disaggregated data are not available (Easterly and Williamson, 2011). Instead, the authors use several criteria for assessing aid quality, and some of them combine aid quality with aid quantity to measure total donor performance. This paper explores one of these assessment tools – the aid component of the Commitment to Development Index (CDI). The index is computed only for the members of Development Assistance Committee (DAC), leaving out many new donors such as the Czech Republic. The aim of the paper is thus to calculate the aid component of the CDI for the Czech Republic using available data, and to discuss the results.

Following the introduction, the second part briefly summarises the history and methodology of the CDI. The rest of the paper focuses on the aid dimension of the CDI – the third part explains the methodology of the aid component which is, in the fourth part, applied to the Czech Republic. More specifically, the authors calculate the aid component of the CDI for 2011.² The aim of the paper is not to critically review the methodology; it is taken as such and applied.³ Generally we employed the standard methodology for calculation of the aid component (Roodman, 2011a). In two aspects (tied aid and private charity) we had to deviate from the standard methodology due to data constraints, and use alternative approaches that are explained in the relevant parts of the paper. The results are compared with other countries for which the index was computed. In the final part of the paper, we discuss the results and draw some conclusions.

2 History and methodology of the CDI

There are many ways through which rich countries affect, positively or negatively, the development perspectives of poor countries. These policies have been at the centre of both political and academic debate for a long time, but when it came to measurement, the only statistics available were those for foreign aid, expressed either as absolute volumes or as relative shares of national income. In 2003 the Center for Global Development

(CGD) constructed the CDI (Birdsall and Roodman, 2003) to assess the much wider range of policies that affect the development of poor countries, and ranked a group of rich countries from this perspective.

The CDI is a composite indicator embracing seven policy dimensions – aid, trade, investment, migration, environment, security, and technology. Each of the seven components consists of several sub-indicators. The weight of these indicators differs within each component, but the seven components are weighted equally in the final index. The value of each component is given on a scale of 0–10 with an average of 5 for the base CDI year 2008.⁴ Having 5 as the average has a strong interpretation value since it is very easy to assess how a country stands in any of the components and in the final index vis-à-vis other countries. However, except for the base year, the average CDI values are no longer fixed and change in line with (average) policies of all CDI countries; then the comparison is less intuitive. It needs to be emphasised that the purpose of the CDI is to provide a relative comparison of countries, so the values do not bear any meaning in an absolute sense.

The CDI is calculated for the members of the OECD DAC except Luxembourg – 22 countries in total. The results are published annually on the website of the CGD. Over time there have been some modifications to the methodology; this paper uses the 2011 edition (see Roodman, 2011a, 2011b).

3 Aid component

In this part we provide an overview of the methodology used for computing the aid component of the CDI; complete methodology is explained in Roodman (2011a). The aid component consists of

- 1 quality-adjusted aid
- 2 quality-adjusted private charity induced by public policy.

The general assumption underlying the calculation of the aid component is that aid is beneficial for the recipient countries (more aid is better than less) and that the degree of its usefulness differs (some aid is better than others). More specifically, aid quantity is discounted in the case of tying and based on selectivity and project proliferation. This approach is different, and arguably more appropriate for the purposes of the CDI, to the approaches taken by other authors.

The original study by Easterly (2002) ranks countries according to five different criteria – four implying aid quality and one aid quantity – and takes the unweighted average of the rankings. Two recent papers (Easterly and Williamson, 2011; Knack et al., 2011) also assess donors based on several criteria and then make a final score and rank each donor. Unlike the original approach by Easterly they do not try to encompass aid quantity in their assessment. This approach has its own value since it assesses the practises of donor *agencies* irrespective of the volume of aid which is not within their remit. However, since the aim of the CDI is to evaluate donor *countries*, both quantity and quality of aid is important. There is still a substantive difference between the approach taken by Easterly (2002) and the CDI methodology. A methodology that combines aid quantity and aid quality in an additive way may lead to odd conclusions where “a donor that gave a penny of high-quality aid could outrank one that gave \$10

billion in medium-quality aid” [Roodman, (2006), p.7]. Therefore, the CDI methodology uses multiplication, rather than addition, between aid quantity and quality. On the other hand, the particular multiplication methodology used in the CDI gives relatively low weight to aid quality (relative to aid quantity) which may be perceived as a shortcoming (see part five of the paper).

3.1 *Quality-adjusted aid*

The methodology starts with countries’ ODA as reported to the DAC and makes the following adjustments.

3.1.1 *Calculation of gross aid from ODA*

- *The forgiveness of non-ODA loans is subtracted.* Provision of non-concessional loans is not counted as ODA. However, as these loans are cancelled, they in fact turn into grants and therefore are counted retroactively as ODA. These loans are deducted from the CDI since the net transfers are not primarily a result of current policy. Also, since part of the cancelled debt may have been uncollectible, the current value of the debt cancellation is lower than its face value.
- *Principal and interest payments are deducted.* Net ODA reported to the DAC is the net of principal payments, but not of interest. The CDI treats debt service uniformly since both are financial transactions that are likely to have the same effects on the development of the borrowing country. Therefore, both amortisation and interest are subtracted.

After these items are deducted from ODA the result is ‘gross aid’ in the CDI terminology.

3.1.2 *Discounting aid*

- *Tied aid is discounted.* Tied aid refers to limiting the procurement of goods and services, which are intended to be part of the development intervention, to the donor country, or only to a particular group of countries. Since tying increases project cost, the real value of aid is lower than its nominal value. CDI methodology is based on a relatively old review of tying cost studies from the period 1960–1990, conducted by Jepma (1991). The review concluded that tied aid is typically overpriced by 15–30% compared to untied aid. More recent studies reveal that the cost of tying may differ significantly among funded goods and among forms of aid but broadly reconfirms the early estimate of cost range (Clay et al., 2009). The 15–30% excess cost estimate translates into a reduction of aid value by 13–23%. Based on this the CDI methodology discounts tied aid by 20% and partially tied aid by half, i.e., by 10%. Discounting the tied aid applies only to bilateral aid; multilateral aid is not discounted since it is assumed that aid provided by multilateral donors is not tied.
- *Selectivity weight is applied for each donor-recipient pair to reflect that poorer and better governed countries are more appropriate for aid.* Aid is assumed to be more needful and effective in countries that are poor and well governed. The importance of the poverty criterion is relatively uncontested though there are various views on

how to measure poverty and the level of development. The second criterion is based on studies of Burnside and Dollar (2000, 2004, p.1) who argue that “the impact of aid depends on the quality of state institutions and policies”. They conclude that aid can be made more effective (in terms of economic growth) if it is systematically conditioned by well-governed institutions and good policies of recipient countries. Though their studies brought about a wave of critical reviews (see, for example, Hansen and Tarp, 2001; Easterly et al., 2004), their main conclusion – that donors should focus mainly on countries with well-governed institutions and good policies – is still widely accepted as a general guideline for aid allocation.

In the CDI methodology, for each donor-recipient pair, aid is multiplied by a selectivity weight that takes the two above mentioned aspects into consideration. The indicators used for calculating the selectivity weight are GDP per capita converted to USD by exchange rates and the Kaufmann-Kraay composite governance indicator (Kaufmann et al., 2008). In effect, the richer the country (higher log GDP per capita) and the more poorly it is governed (lower governance score), the lower the selectivity weight, and therefore the aid multiplied by this weight is also lower. Two exceptions apply. First, emergency aid is exempt from both criteria since it may be needful and effective, even in countries with higher incomes and poor governance. Second, aid that is meant to improve governance is discounted less than would typically be the case for aid that is not governance-oriented. This is the middle ground between two extreme approaches. On the one hand, applying the standard rule would lead to the conclusion that donors should not try to improve governance in poorly-governed countries. On the other hand, the effectiveness of aid in poorly-governed countries is lower, and this is likely to be true for all types of aid including aid intended to improve governance.

- *Size weight is applied for each donor-recipient pair to penalise project proliferation and fragmentation.* The effectiveness of aid depends on the size of projects. Unlike selectivity weight for governance and poverty with monotonic weighting functions, for project size neither very small nor very large projects are considered to be the most effective (the function is lognormal). In effect, it is assumed that there is an optimal project size that depends on the size of the recipient country, the volume of aid received by the country, and the quality of its governance. Both small and large projects are discounted, however, since optimal project size is considered to be significantly higher than the typical project size, a significant discount is actually applied only for few large projects. In other words, proliferation of small projects is considered a more salient problem than funding very large projects. Regarding the governance criterion, very large projects are considered inappropriate for countries with poor governance so that optimal project size tends to increase with the quality of governance.
- *Multilateral quality-adjusted aid is allocated back to bilateral donors.* The procedure of calculating quality-adjusted aid described above is done both for bilateral and multilateral donors. However, to the extent that multilateral funds are drawn from bilateral donors, it is necessary to allocate multilaterals' quality-adjusted aid back to bilateral donors. Allocation of multilaterals' quality-adjusted aid to the bilaterals is proportional to their contributions to the multilateral in a given year.

3.1.3 *Calculation of total quality-adjusted aid*

Bilateral and multilateral quality-adjusted aid is summed to arrive to total quality-adjusted aid.

3.2 *Quality-adjusted private charity induced by public policy*

While the first part of the aid component measures the direct public policy of foreign aid, the second part measures private charitable giving as an indirect (but partly intended) effect of public policy. Private charity (or ‘private foreign aid’) is, in most countries, only a fraction of public foreign aid; the exception being the USA where private charity is relatively significant. It should be emphasised that the CDI does not combine official and private resources expended for development purposes. Since the aim of the CDI is to assess public policies, private charity is imputed into the CDI only to the extent that it is influenced by public policy. In effect, the CDI takes into account only that part of private charity which is induced by a country’s public policies, namely tax policies.

The estimation of quality-adjusted private charity induced by public policy is done in two steps. First, private charity induced by tax policies is estimated, and then this amount is discounted for quality.

3.2.1 *Translating country tax incentives for private charity into an increase in giving*

There are two ways in which countries promote private giving. The first is through specific tax incentives to lower the price of giving. An increase in private charity is a function of the tax incentive and the price elasticity of giving. Tax conditions that promote private giving are either partial tax credit (i.e., a reduction of a tax by a certain percentage of a donation) or deduction of donations from taxable income. These two tax incentives need to be standardised in order to be comparable. In the first case, 40% tax credit translates into a tax incentive of 40% (because the real price of 100 Euros given to charity is only 60 Euros for the donor). Tax incentives under the system of deductions from taxable income equal the marginal income tax rate of donors. Since it is assumed that donors mainly come from households with above-average incomes, the relevant marginal income tax rate is taken at 167% of the income level of the average production worker. Some countries set the maximum that can be deducted from taxable income which reduces the incentive effect. For these countries, the tax incentive is taken as a half of the relevant marginal income tax rate. For example, if a relevant marginal income tax rate is 40%, the tax incentive is 40% if a country does not set the maximum for deduction, and 20% if it does (for simplicity, the methodology does not take into account whether the threshold for tax deduction is high or low).

An actual increase in private giving does not only depend on tax incentive but also on how responsive giving is to its price. The CDI methodology uses a price elasticity of giving of -0.5 which is an often quoted estimate based on Randolph (1995) who found a permanent price elasticity of giving of -0.51 in a panel data study for the USA in the 1980s. This is rather a conservative estimate since other studies using panel data for the USA show higher price elasticities [e.g., between -0.79 and -1.26 in a study by Auten et al. (2002); -0.71 in a study by Bakija and Heim (2008)]. Since there are few studies for other countries, the price elasticity of giving of -0.5 is applied uniformly to all countries.

Having parameters for tax incentive (different for each country) and price elasticity (same for all countries) we calculate the *first multiplier* as

$$(1 - \text{tax incentive})^{\text{price elasticity of giving}}$$

Secondly, countries also affect private giving indirectly through the level of tax burden. An increase in private charity is a function of the level of tax burden and the income elasticity of giving. Low average taxes (low ratio of tax revenue to GDP) leave people with higher incomes of which part can be given to charity. The income elasticity of giving is estimated at 1.1 and again applied uniformly to all countries. The *second multiplier* is calculated as⁵

$$\left(\frac{1 - \text{tax revenue} / \text{GDP}}{1 - \text{tax revenue} / \text{GDP benchmark}} \right)^{\text{income elasticity of giving}}$$

The increase in private giving attributable to public policy is calculated as

$$\text{current giving} - \frac{\text{current giving}}{\text{multiplier 1} \times \text{multiplier 2}}$$

3.2.2 Discounting private charity induced by public policy

In the final step, policy induced charitable giving is discounted for the same reasons as public foreign aid. Due to limited information about the quality of private aid, the average discount for bilateral programmes of all bilateral donors is applied to estimate the quality-adjusted charitable giving induced by public policy (64% for aid CDI 2011).

The numbers for official aid and private charity are now both adjusted for quality and therefore comparable. We add both numbers and express the total as a share of donors' gross national income, GNI (in USD, market exchange rates). These percentages are then translated onto a standardised CDI scale to be comparable with other components.

4 Results for the Czech Republic

In this part of the paper we calculate the aid component for the Czech Republic. The country renewed its development assistance programme after its acceptance into the OECD in 1995. At the beginning, the programme was greatly fragmented both territorially and institutionally. This has improved over time, partly due to its membership in the European Union since 2004. However, the Czech Republic is still not a member of the DAC and therefore does not report some of the data necessary for the computation of the aid component. Thus, in order to calculate the aid component for the Czech Republic, various data sources were used including OECD statistics, information provided by Czech non-governmental development organisations and other sources, such as SQL databases of the CGD (2011).

4.1 *Quality-adjusted aid*

The gross aid element includes both multilateral and bilateral ODA as reported to the DAC. Though the DAC Aid Statistics database includes both gross disbursements and net disbursements, for the Czech Republic the data are identical. In 2009 the Czech Republic reported 214.7 million USD as ODA, of which multilateral aid accounted for 53% (113.7 million USD) and bilateral aid for 47% (101.0 million USD). Gross bilateral ODA is cleared of debt cancellation, amortisation and interest. The latter two are not reported for the Czech Republic, therefore only debt relief is taken into account. In 2009 it represented 3.1 million USD which was deducted from gross bilateral ODA, resulting in 98.0 million USD of net bilateral aid.

In the next stage bilateral aid is adjusted to take into account tying costs. The Czech Republic does not report tying to DAC and according to our information (personal communication with a representative of the Czech Ministry of Foreign Affairs) this data is not recorded. According to the Monterrey questionnaire (monitoring of EU commitments on financing for development done by the member states) only aid provided to non-governmental organisations (NGOs) is tied. However, analysing individual components of bilateral aid we can speculate that the majority of Czech bilateral aid is in fact tied. This conclusion is also supported by anecdotal evidence from various representatives of the Ministry of Foreign Affairs as well as NGOs, academia and other Czech development assistance actors (see Horký, 2010). However, the CDI methodology explicitly states that it does not account for ‘unreported, informal, de facto tying’ [Roodman, (2011a), p.11]. Since we suspect that many DAC donors in fact tie more aid than they report, we do not estimate tying costs of the Czech Republic based on the above indications. Neither do we penalise countries for not reporting tied aid as Easterly (2002), i.e., counting all aid as tied. Instead, we impute tying costs using the ratio of tying costs to gross aid for the worst performer among the CDI countries, South Korea, which is 10.09% for non-emergency aid and 14.65% for emergency aid. Complete steps in calculating quality-adjusted bilateral aid are shown in Table 1.

Table 1 Bilateral aid adjustment, 2009

<i>Non-emergency net aid (million USD)</i>	<i>Non-emergency tying penalty (10.09%)</i>	<i>Selectivity weight</i>	<i>Selectivity weighted non-emergency aid (million USD)</i>
93.56	9.44	0.58	48.59
<i>Emergency aid (million USD)</i>	<i>Emergency tying penalty (14.65%)</i>	<i>Size weight</i>	<i>Quality-adjusted aid (million USD)</i>
4.41	0.65	0.74	38.54

Source: CGD (2011); OECD DAC (2011); authors' calculations

Each recipient country has its own selectivity weight based on its income per capita and the level of governance. Selectivity-weighted aid for each recipient country of the Czech Republic is the multiplier of net non-emergency aid received by the country and its selectivity weight; the final selectivity weight of the Czech Republic is the ratio of its selectivity-weighted aid to its unweighted aid. Table 2 shows the effect of selectivity

weights. Although Czech bilateral net aid to Iraq in 2009 was more than twice of that to Ghana, after adjustment selectivity-weighted aid to Ghana accounts for more than selectivity-weighted aid to Iraq. The reason is a very high selectivity weight for Ghana and a very low one for Iraq. In other words, 97% of Czech net aid to Ghana was translated into quality-adjusted aid, whereas in the case of Iraq it was only 22%. Emergency aid is excluded from selectivity discount as it is provided on an ad hoc basis where needed. In 2009, this represented 4.4 million USD. Emergency re-enters the calculation in the process of size-weight adjustment when it is added to the selectivity-adjusted aid and then multiplied by size weight to arrive to quality-adjusted aid.

Table 2 Adjustment by selectivity, 2009

Country	Net non-emergency aid (million USD)	Selectivity weight	Selectivity-weighted aid (million USD)
Ghana	0.18	0.97	0.17
Iraq	0.44	0.22	0.10

Source: CGD (2011); Authors' calculations.

Calculating size weight tends to be more complicated than calculating selectivity; the main reason being the complexity of factors to consider. As with selectivity weight it is calculated for each donor-recipient pair and the average size-weight score is then applied to selectivity-adjusted aid and the previously omitted emergency aid. Aid activity data are not available for the Czech Republic, so we imputed the size weight using average size weight of other donors for each of the recipient countries of Czech aid (0.74). Among the recipients of Czech development assistance in 2009 Gambia had the highest size weight score of 0.87, while Chile had the lowest of 0.51. This is a relatively crude imputation; however, it is in line with the CDI methodology for those countries that do not report aid activities to the DAC.

The calculation of multilateral quality-adjusted aid is similar, to the extent that it also takes into consideration selectivity and size weight. However, it excludes tying costs as multilateral agencies are not assumed to apply tying measures to aid. The calculation of multilateral adjusted-aid is more complex because it considers each individual multilateral donor and evaluates its selectivity and size weight. For each bilateral donor (e.g., the Czech Republic) the share of its contribution to the multilaterals' total net ODA is computed; the share is then multiplied by the quality-adjusted aid of each multilateral (e.g., UNDP). Quality adjusted aid is not calculated for all multilateral donors (labelled 'not scored' in Table 3). The average quality-adjustment measure is calculated as a ratio of quality-adjusted aid to scored multilaterals and net aid to scored multilaterals. The ratio becomes the final component for calculating multilateral quality-adjusted aid. Table 3 shows this procedure in more detail. Firstly, aid is assigned to each multilateral based on the contribution of the Czech Republic as reported to the DAC. Secondly, this contribution's share of the multilateral's total ODA is calculated. This share is then multiplied by the quality-adjusted aid of each multilateral donor.

Table 3 Multilateral aid adjustment, 2009

<i>Multilateral organisation</i>	<i>Net aid (million USD)</i>	<i>Net aid to scored multilaterals (million USD)</i>	<i>Czech quality-adjusted aid (million USD)</i>	<i>Total quality-adjusted aid of multilateral donor (million USD)</i>	<i>Share of Czech contribution (%)</i>
Other Regional Banks	0.10	not scored			
IDA	6.61	6.61	4.19	4,606	0.00091
European Commission	91.57	91.57	45.10	6,927	0.00651
UNRWA	0.60	0.60	0.43	233	0.00185
IFAD	0.22	0.22	0.12	177	0.00069
Other UN	12.36	not scored			
Multilateral other	2.22	not scored			
Total	113.68	99.00	49.84	–	–

Source: CGD (2011); OECD DAC (2011); Authors' calculations.

The final average multilateral quality discount is the ratio of quality-adjusted aid to scored multilaterals (49.8 million USD) and net aid to scored multilaterals (99.0 million USD), which represents 50.3%. The average quality discount is then applied to total net multilateral aid, as can be seen in Table 4.

Table 4 Multilateral quality-adjusted aid, 2009

<i>Average multilateral quality discount</i>	<i>Net aid (million USD)</i>	<i>Multilateral quality-adjusted aid (million USD)</i>
0.50	113.68	57.18

Source: CGD (2011); OECD DAC (2011); Authors' calculations.

Adding the separately computed quality-adjusted bilateral aid (38.5 million USD) to the multilateral aid (57.2 million USD), the final figure is 95.7 million USD. This represents 44.6% of ODA reported to the DAC. While ODA represents 0.12% of GNI, quality-adjusted aid accounts only for 0.053%.

4.2 *Quality-adjusted private charity induced by public policy*

The second part of the aid component focuses on public policies promoting charitable giving. Unlike the DAC members, the Czech Republic does not report data on private charity nor does the Czech Statistical Office collect similar information that could serve as a baseline for computation. Therefore, we conducted a survey among Czech development NGOs, and received data from 36 out of around 50 organisations. We have used official sources (annual reports) and data provided by individual organisations on request. In order to stay in line with the official DAC reporting, the analysis followed the DAC guidelines and included “grants by national NGOs and other private sources,

including foundations and other private bodies, for development assistance and relief' [OECD DAC, (2007), p.31]. Most of the contacted organisations replied, some of them had not received any funding that falls under the DAC definition. In total, 18 organisations had a positive amount of funding for a period between 2006 and 2009, and these amounts were used to estimate a proximate value for private funding. Based on our survey, organisations for which we were able to retrieve data received 9.69 million USD for development and relief purposes in 2009. This is likely an underestimate since the data does not cover all NGOs and does not cover private bodies (except for the situations when funds are channelled through the NGOs which we assume to be the usual case).

The component aims to assess what proportion of charitable giving is attributable to public policies. Two aspects of state policies affect this proportion – tax policies deliberately designed to increase charitable giving and the level of tax burden. As for the first aspect, the relevant marginal income tax rate (at 167% of the income level of the average production worker) in the Czech Republic in 2009 was 20.1% (OECD, 2011).⁶ Because the Czech Republic sets a maximum that can be deducted from taxable income, the tax incentive is taken as a half of marginal income tax rate, i.e., 10.05%.⁷ The tax incentive (10.05%) together with the estimated price elasticity of giving (–0.5) produces an increase in giving of 5.44%. This is calculated as

$$(1 - 0.1005)^{-0.5} = 1.0544, \text{ i.e. an increase of } 5.44\%.$$

The increase in giving because of smaller government 39.97% is a product of three factors – the share of Czech tax revenue as a percentage of GDP (34.7%), the benchmark share of tax revenue as a percentage of GDP (51.9%) and the estimated income elasticity of giving (1.1). This is calculated as

$$\left(\frac{1 - 0.347}{1 - 0.519} \right)^{1.1} = 1.3997, \text{ i.e. an increase of } 39.97\%.$$

Both factors produce a combined increase in giving of 47.58% ($1.0544 \times 1.3997 = 1.4758$). Steps in calculating the combined increase are summarised in Table 5.

Table 5 Public policies for charitable giving, 2009

Marginal income tax rate	Cap on deduction	Tax incentive	Increase in giving with incentive	Total tax revenue as % of GDP	Increase in giving because of smaller government	Combined increase
20.1%	Yes	10.05%	5.44%	34.7%	39.97%	47.58%

Source: OECD Tax Database (OECD, 2011): Table A: Total tax revenue as percentage of GDP, Table I.4: Marginal personal income tax and social security contribution rates on gross labour income; Authors' calculations.

When we divide the actual private giving (9.69 million USD) by the combined multiplier (1.4758), the figure shows the estimated private giving without the effect of tax policies (6.23 million USD). By deducting this amount from the actual private giving we isolate the effect of tax policies on private giving (2.96 million USD) as shown in Table 6.

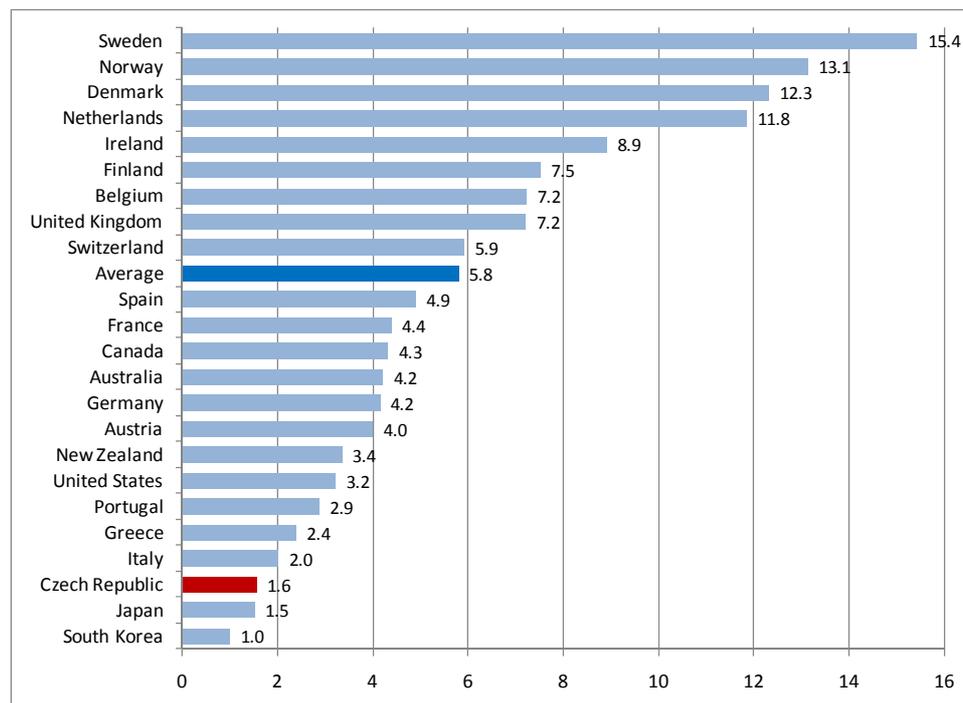
Table 6 Charitable giving, 2009

<i>Current giving (million USD)</i>	<i>Giving in absence of favourable tax policies (million USD)</i>	<i>Giving attributed to tax policies (million USD)</i>	<i>Quality-adjusted private giving (million USD)</i>
9.69	6.57	3.12	1.13

Source: Data from individual NGOs; Authors' calculations.

In the final stage, giving attributed to tax policies is subjected to quality adjustment. Given the limited information on the effectiveness of aid from private sources, the average quality discount was set as an average of all donors' bilateral quality aid adjustment (64% in 2009). After this adjustment private giving accounts for 1.13 million USD, which represents 0.0006% of GNI.

Adding up both quality-adjusted aid (95.7 million USD) and quality-adjusted charity induced by public policy (1.1 million USD), we arrive at 96.8 million USD for 2009 which amounts to 0.054% of GNI. Translating the percentage onto the standardised CDI scale the Czech Republic gains a score of 1.6. With this score the country is placed at the bottom of the list, having the third least favourable aid policy towards developing countries among DAC countries, which is illustrated in Figure 1.

Figure 1 Aid component of the CDI 2011 (see online version for colours)

Source: Authors' calculations; CGD (2011)

5 Discussion and conclusions

The aid component of the CDI is one of the few tools that attempt to assess development aid. Though it is not computed for emerging donors (both, large developing countries such as Brazil or India and smaller developed, often post-communist, countries such as the Czech Republic and the Baltic states) the methodology makes it possible to incorporate other countries with available input data. Our research shows that with a score of 1.6 for CDI 2011 the Czech Republic ranked third lowest among the DAC members. Two points shall be emphasised in this context.

First, as a non-DAC member the Czech Republic does not have to report data to DAC in as much detail as member countries. On this account, official data for tied aid, project size and charitable giving were not available. We used a relatively simple imputation method for tied aid and size weight, and did a survey on charitable giving among Czech NGOs. Therefore, results should be interpreted cautiously. Improving statistical reporting and standardisation with DAC guidelines would contribute to refining the results and allow more accurate comparison with other donors. Joining the DAC would require this standardisation but statistical reporting can be improved and made more transparent even without membership. However, as much as this standardised reporting is necessary, it does not seem likely that the score for the Czech Republic would change significantly with official data.

Second, though the final score is worse than for most of the DAC member countries, this is not surprising for a country that has recently changed its status from the recipient of foreign aid to that of a re-emerging donor; so the results should be viewed from this perspective. Although the former Czechoslovakia provided significant support to its fellow communist countries during the communist era, after the fall of the communist regime in 1989 development assistance activities were terminated, as the country was preoccupied with the transformation of its political and economic systems. When the country re-established its development assistance programme in the mid-1990s, limited experience could have been drawn from its pre-1990 programme (mainly concerning the institutional framework). Over the last 15 years the Czech Republic has institutionalised its development assistance programme, increased aid volumes and taken some steps to make its aid more effective.

It is not difficult to derive general recommendations for a country to move up on the aid CDI ladder: give more aid, fully untied, give it to poor and well-governed countries without unnecessary fragmentation, and have effective tax incentives for private charity. Regarding aid quantity, the Czech Republic's share of ODA in GNI has hovered around 0.12% in recent years. The country has therefore not achieved the EU target for 12 new member states to provide 0.17% by 2010 and it seems unlikely that it will achieve the second target of 0.33% by 2015.⁸ The assessment of quality of Czech aid is more complicated. As for the tying of aid and project size, recommendations are difficult due to missing data. But we suspect that a major part of Czech aid is *de facto* tied, which has a negative impact on aid effectiveness. Aid allocation is not primarily focused on low-income countries, which is reflected in a rather low selectivity weight of the Czech Republic. Although the CDI embraces both quantity and quality of aid, it is the quantity of aid that has a dominant effect on donors' scores.⁹ A relatively low share of Czech aid in GNI thus has a major effect on the final score. If one's goal is to simply increase the CDI aid score, increasing aid volumes seems to be the most straightforward way. Alternatively, it is possible to increase the CDI score (with the volume of aid unchanged)

by improving aid quality. This might be neither politically easier than increasing aid quantity, nor would it raise the score significantly.

It needs to be emphasised that the assessment of Czech aid was done exclusively through the prism of the CDI. For example, if the aspects of aid quality are more important for the impact of aid than the CDI methodology assigns to them, then the strong focus on aid volumes may be misleading. The methodology also does not allow for countries' specific situations (which is understandable). Donors from Central and Eastern Europe have a distinct aid allocation pattern with a higher share of aid given to post-communist countries. Since these countries do not have low income per capita, this is penalised in the CDI by selectivity criterion. Given the historical legacy and the experience from post-communist transformation, aid to these countries is being justified by comparative advantage; empirical evidence of such a phenomenon is nevertheless missing.

Finally, private charity induced by public tax policies is a minor part (at least an order of magnitude lower than aid in each country) of total quality-adjusted resource transfers to developing countries. Since it is so negligible and it is also influenced by policies that are not driven by considerations for charity (a tax system that would drive CDI results up is that with a low average level of taxation and, for countries applying deductions of charitable giving from taxable income, high marginal tax rates for higher-income people), it is unlikely that this share of total resource transfers would increase significantly in the Czech Republic and in other countries. Government-provided foreign aid remains the key factor determining the value of aid policies as measured by the CDI.

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The paper builds on our previous work published in *Perspectives on European Politics and Society* (Krylová et al., 2012). This paper updates the results and goes more into detail on methodology and calculation of the CDI aid component for the Czech Republic.

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Notes

- 1 For a general critique of aid see popular books by Easterly (2006) and Moyo (2009); for the opposite view, that large amounts of aid ('big push') are necessary to eradicate global poverty, see Sachs (2005). Many critical aspects of aid and ideas for its improvement can be found in a volume edited by Easterly (2008). There are also plenty of academic papers analysing the effects of aid, especially its effects on economic growth and political institutions. Despite positive evaluations of aid impacts at the micro level, many macro level analyses concluded that there is not systematic effect of aid on growth [see an influential econometric analysis by Rajan and Subramanian (2008)]. This discrepancy between conclusions of micro and macro studies on the impact of aid has been called a 'micro-macro paradox' (Mosley, 1986). However, Arndt et al. (2010) argue that while it is difficult to discern any impact of aid in the short term, a positive and statistically significant effect of aid on growth is revealed in the long run. The second strand of literature concerns the effects of aid on political institutions and quality of governance. Many of these studies conclude that large inflows of aid may undermine the development of effective public institutions [see a review by Moss et al. (2006)] and is therefore a similar 'curse' as that of natural resources (Djankov et al., 2008). A recent paper by Dutta et al. (2011) argues that aid effect on political institutions is generally neither positive nor negative, but only amplifies recipients' existing political institutions.
- 2 Aid component of the CDI is based on data going two years back. To comply with the methodology we used data for 2009 to construct aid CDI for 2011. Also, since the whole index is standardised to a base year of CDI 2008 (see explanation further in the text) it was necessary first to compute aid CDI for 2008 with data from 2006.

- 3 For a critical review of the aid component of the CDI see McGillivray (2003). Sawada et al. (2004) provide a short review of the individual CDI components and present five alternative indices derived from the CDI.
- 4 In fact, the scale is not determined by 0 as a minimum and 10 as a maximum, but by an average of 5 in the base year. Some countries may exceed the 0–10 range if they significantly deviate from the average, both in individual indicators and components (for the aid component it can be seen in Figure 1). Also, one of the components (environment) has an average higher than 5 in the base year. Detailed methodological explanation is not necessary for the purpose of this paper.
- 5 As a benchmark the tax revenue/GDP ratio of 0.519 is used. This is the highest ratio from the first edition of the CDI in 2003 and applies to Sweden that recorded 51.9% share of tax revenues on GDP in 2001. The ratio is used as a baseline for all years.
- 6 Marginal income tax rates used for calculation do not include social security contributions paid by the employee and those paid by the employers which, in the Czech Republic, are one of the highest among CDI countries. Also, this share has not been stable in the last decade. It was 17.5% in 2000, increased to 28% in 2006 and dropped to 20.3% in 2008 (OECD, 2011).
- 7 Individuals can deduct up to 10% of taxable income, companies up to 5% of taxable income. Interestingly, the Czech Republic also applies a minimum bound (i.e. lower giving cannot be deducted) of 2% of taxable income, or CZK 1,000 (about 55 USD) for individuals and CZK 2,000 (about 110 USD) for companies.
- 8 However, only Cyprus and Malta managed to achieve the 0.17% target in 2010 from the 12 new member states (OECD DAC, 2011).
- 9 A simple correlation between ODA/GNI (as an indicator of aid quantity) and the CDI aid score is 0.98, and between quality-adjusted aid/net aid (as an indicator of aid quality) and the CDI aid score is 0.47. At the same time, correlation between the above indicators of aid quantity and aid quality is 0.38.