Aid, Growth, and Macroeconomic Management

1st DRAFT
ReCom
Position Paper

UNU-WIDER

Preface

This draft position paper was prepared by UNU-WIDER before the 1st ReCom results meeting on aid, growth, and macroeconomic management to be held in Copenhagen on 27 January 2012. It will be revised based on the deliberations at the results meeting and on other inputs and comments to be received after it is put in the public domain. The final outcome of this process will eventually form part of the ReCom position paper on 'Aid, Growth, and Employment' to be issued later in the year following the results meeting on 'Aid and Employment' scheduled for June 2012.

This draft builds in particular on (i) background papers prepared for ReCom by members of UNU-WIDER's global network including a range of leading specialists in the aid area from both developing and developed countries; (ii) already existing research published in a variety of forms reviewed under the ReCom programme; (iii) original research by UNU-WIDER staff and others; and (iv) papers prepared for the UNU-WIDER-AERC conference on the 'Macroeconomic Management of Foreign Aid', held in Nairobi on 2-3 December 2011. Background papers and other outputs from the ReCom programme are in various stages of completion and will all be made available through the ReCom website as they become ready for publication.

I am grateful for all of the analytical efforts that have gone into the first year of work under ReCom, and would like to express my appreciation to Danida and Sida for their financial support. We look forward to continuing ReCom work in 2012-13, gradually moving from macro-level and employment issues to the other established focus areas, including governance, social sectors, gender, and environment and climate change.

Any remaining errors of fact or judgment are my responsibility.

Finn Tarp, Director
UNU-WIDER
January 2012

1 Introduction

In the last couple of decades, developing countries, including those in sub-Saharan Africa, have witnessed notable progress in non-income based development outcomes such as health, education, child mortality, sanitation, and access to safe drinking water. Despite this, poverty remains widespread and overall economic growth continues to leave much to be desired. This is so even if sub-Saharan Africa would appear to have turned a corner in the late 1990s as a recent issue of *The Economist* has suggested. Sustaining registered achievements and promoting growth is a daunting task as myriads of socioeconomic and political challenges continue to undermine development endeavours. Poor countries are poor for many reasons, but first and foremost they are poor because they simply do not produce very much.

Economists typically view the productive capacity of an economy as being a function of stocks of factors of production especially physical capital (factories, tools, computers, roads, etc.), human capital (workers with skills) and labour (workers without skills) as well as technology. Economists also posit a crucial role for institutions, which provide frameworks for organizing these factors in a manner that is productive. Poor countries lack physical capital, human capital, technology, and well-functioning institutions. As a result, the mass of unskilled labour present in the country is highly unproductive with negative implications for nearly all aspects of well-being.

There are some common elements to these four attributes that help to explain their relative absence in poor countries. First, they all accumulate through long-run processes. The buildings in most developed country cities reflect more than a century of cumulative construction. Converting an infant into a highly skilled engineer takes at least two decades. While technological leaps are possible, technology improvement is mainly a slow evolutionary process conducted via repeated trial and error. Finally, institutions evolve slowly over time. For example, British common law is based on centuries of case experience.

Second, accumulation of these attributes generally requires a forward looking mind set. In order to accumulate any of these, one must typically sacrifice something today in order to benefit in the future. This can be very difficult when current resources are highly constrained and when people are unable to satisfy their basic needs. In this case there is little scope for saving. Third, accumulation of these attributes relies on public private partnerships. Even strongly market-oriented economies, such as the United States, rely on the public sector to supply basic economic infrastructure such as roads and bridges, education, and to fund research and development for new technologies. This highlights the important role of institutions both for current and future production levels.

Finally, note that, unless very well established, all four of these accumulation processes are highly vulnerable to disruption. At the extreme, years of effort can be wiped out in short order. As a prominent example, wars destroy both physical and human capital. More subtle disruptions than the eruption of violence can also have serious impacts. Experience indicates that nascent institutions are particularly vulnerable to disruption (Arndt 2000; Berg 1993). Even a relatively short period of neglect can substantially harm long-run efforts at institution-building.

In summary, to improve living standards significantly, poor countries must produce more—much more. To produce more, poor countries must initiate and maintain long-run cumulative processes to build physical capital and human capital, acquire technology, and nurture institutions that facilitate growth. The role of aid for development, broadly conceived, is to support these long-run cumulative processes. The success of the aid enterprise in accomplishing this objective at the macro-level is the focus of this report.[1]

It follows that existing economic problems like unemployment, lack of competitiveness in international markets, low productivity and lack of technological progress coupled with malfunctioning intuitions, corruption, and bad governance, can make poor countries' transition to a sustainable development path long and challenging. On top of this, the current global economic downturns and slowdowns are exacerbating economic problems by causing, among others effects, a decline in the demand for exports as well as a fall in inflows of remittances and FDI.

Overcoming the aforementioned hurdles of development takes time, and is by no means an easy venture. Nonetheless, the multidimensional nature of the development process means that countries do have different tools at their disposal to make a difference in the lives of their citizens. In this regard, the role of sustained economic growth is critical. Achieving sustainable development without rapid rates of economic growth is not feasible. At the same time, economic growth is certainly not the sole instrument to realize the development aspirations of poor countries. The notion of development goes far beyond income growth.

Although economic growth, as measured by a rise in national income or output should not be an end in itself, it is certainly necessary as a means to an end—that end being achievement of desired socioeconomic development outcomes. There is also empirical evidence to suggest that there is a clear association between growth and poverty reduction, even if the variation around means is very large.[2] Our point of departure is that both sustained and fairly distributed economic growth are necessary conditions to ensure economic development.

The question then is, how can countries achieve high-quality economic growth that can lead to sustainable development? It is an uncontested fact that the process of economic growth in large measure depends on private initiative and on internal resource mobilization efforts of developing countries. However, given the narrow tax base, capacity constraints and weak institutions, local resource mobilization should not be left alone to the job of solving the multifaceted development challenges of poor nations. There is *a priori* a strong theoretical case for aid, and foreign aid has over the years demonstrated that it can help complementing local resource mobilization efforts and hence can assist in partially bridging existing resource and knowledge gaps. Moreover, even if other capital flows like FDI and remittances can in many cases serve similar purposes, aid has the distinctive advantage that it can finance public goods and target the poor, vulnerable, and marginalized sections of the society. Aid is in large measure public money that can be spent pursuing common societal needs and development constraints. The merit of aid in reducing poverty is acknowledged in the literature,[3] but despite this potential role to make a difference in

[1] We refer to other ReCom papers on the UNU-WIDER website for definitions and background on aid flows. See also Tarp (2006).

[2] See for instance Ravallion (2001); Dollar and Kraay (2002).

[3] See for instance Gomanee and Oliver (2002); Feeny (2003); and Gomanee et al. (2005), among others.

the life of the poor, aid's effectiveness continues to be debated. In particular, the aid–growth issue has been a recurrent theme in various forums in development economics, and this sets the background for why this topic together with employment was chosen as the first focus area to be studied under ReCom.

It is indisputable that debate and discussion are essential parts of the learning process in the development profession, and over the last decades we have learnt a good deal as to what works and what does not in relation to aid effectiveness. At times, however, the profession—academics and practitioners alike—has been caught up with unhelpful discussions that are not based on tangible, balanced and solid scientific evidence, and such discussions can potentially result in misguided policy. This has no doubt been observed in relation to the aid–growth debate, and recent years have witnessed a growing and unfounded pessimism about the role of aid in promoting growth; with much of the discussion relying on rhetoric instead of scientific research. It is thus high time to communicate with the wider public and policy makers about existing and latest evidence on aid and growth and to point out where the balance of the evidence actually lies. This communication aim is core to ReCom effort alongside the desire to generate widely respected research output.

The main objective of this report is thus to start communicating evidence on 'what works', 'what does not' and 'where we should do better' in relation to the role of aid in spurring economic growth and development. In doing so, we will rely both on country specific experiences and analyses and results from contemporary cross-country and time-series econometric studies. Specifically, in this report we answer the following important questions:

- Does aid have an impact on growth?
- How big is the impact?
- How long does it take to realize any impact?
- Is real exchange rate appreciation (Dutch Disease) an inevitable macroeconomic cost of aid?
- Is there any evidence to suggest that such macroeconomic costs outweigh the growth and development benefits of aid?

The rest of this report is structured as follows: after giving some background and perspective regarding the aid and growth debate in Section 2, in Section 3 we present the contemporaneous evidence based on ReCom research papers. In Section 4, some of the issues raised and discussed in relation to the macroeconomic management of aid at the ReCom Project meeting in Nairobi are presented. And finally Section 5 summarizes the key messages and lessons learnt.

2 Aid and growth: background and perspective

Empirical research on the effect of aid on growth goes back to the early 1970s. Since then numerous efforts have been made to empirically scrutinize the effectiveness of aid in promoting growth. Despite these, doubts and controversies regarding the potency of aid in spurring economic growth in aid receiving countries continue to date. Though some studies from the early days tended to find a positive and statistically significant impact of aid on growth,[4] subsequent work did not concur with this optimistic conclusion and instead suggested that foreign aid may have no impact on growth.[5] Mosley (1987) came up with the idea of a 'micro–macro paradox' noting that while aid seems to be effective at the micro level, it is impossible to establish a positive and significant impact when one moves to a macro setting.

The above pessimism regarding the macro-level impact of aid instigated from the early 1990s further proliferation of aid–growth empirical studies on both sides of the debate. After some time, the tone of the debate started to take a different course from 'aid doesn't work' to 'aid works but only under certain conditions'. The emergence of the influential paper by Burnside and Dollar (2000), which suggests that aid works *but* only in countries with good policies, marks the beginning of this debate.[6] As is evident in a series of papers from the early 2000s, the policy conditionality argument is fragile at best, and at worst misleading.[7] For example, Hansen and Tarp (2001) have shown how a diminishing returns story, captured by an aid squared term, has the most support in the data, suggesting that aid has, on average, a statistically significant positive impact on growth for realistic data ranges. Dalgaard et al. (2004) have also contributed. They found a modest and yet significant positive effect of aid on growth suggesting that effectiveness of aid seems to vary across geographic locations.[8] Other scholars like Clemens et al. (2004) on the other hand report a much higher effect of aid on growth by disaggregating aid into different components.

Even if a positive and yet modest impact of aid on growth at the macro level started to emerge around the turn of the millennium, scepticism and cynicism about macro-level aid effectiveness has continued, particularly in recent work. Prominent here is Rajan and Subramanian (2008), who argue that aid has no systematic impact on growth, and they also claim that this holds under various model specifications. Moyo (2009), in a book entitled *Dead Aid*, goes a step further and argues that aid is not only ineffective in spurring growth but is also the source of development problems in Africa. As recognized by a range of commentators, this book is in general characterized by its simplistic analysis, lack of rigor and unrealistic policy recommendations. A similar pessimistic conclusion about aid effectiveness is echoed by Doucouliagos and Paldam (2009). Combining empirical evidence from 68 previous aid–growth studies and using a meta-analysis methodology, these authors conclude that aid is ineffective in spurring economic growth. While shying away from recommending a shut-down of the aid enterprise, this is certainly how their results are being read and interpreted.

[4] See Papanek (1972, 1973); Stoneman (1975);, Dowling and Hiemenz (1983); Gupta and Islam (1983); Levy (1988); Murthy, Ukpolo and Mbaku (1994).

[5] See Mosley et al. (1987); Boone (1994), and many others.

[6] The Burnside-Dollar analysis was also at the center of the World Bank's 1998 highly influential report *Assessing Aid*, and its conclusions about 'what works, what doesn't and why' (World Bank 1998). Similar policy conditionality arguments can be found in Collier and Dollar (2002). Collier and Dehn (2001) also present a conditional aid effectiveness argument stating that aid is more effective when it is given to countries experiencing negative export price shocks.

[7] See Hansen and Tarp (2001); Dalgaard and Hansen (2001); Easterly et al. (2004); Roodman (2004).

[8] Dalgaard et al (2004: 212) concluded by pointing out that 'it is very hard to believe that aid, inherently, should be less potent in the tropics. Hence the explanation is likely to be found elsewhere …'. They indicated the need for further research to disentangle the channels through which aid matters for productivity.

Despite the continuing scepticism and controversy about aid effectiveness at the macro level, there is a wealth of undisputed positive and encouraging results observed at the micro level.[9] Does this mean that the 'micro–macro paradox', as termed by Mosley, remains unresolved? The answer is negative. As shown in detail in Section 3 below, the micro–macro paradox has been unravelled by well-designed and contemporary evidence compiled as part of ReCom project—and this goes for all of the available analytical methodologies at hand. This evidence also reflects an emerging consensus in the profession regarding the positive growth enhancing impact of aid, and how this reality is becoming too obvious to be ignored.[10]

Before discussing the evidence from ReCom research and other papers, it is worth identifying some of the key reasons behind the lack of consensus in the past and/or the difficulty in identifying the impact of aid on growth.

One main reason relates to donors' allocation of aid. That is, donors normally allocate aid based on the level of income of recipient countries—the poorer a country is, the more aid it will get and vice versa. Alongside the fact that countries 'graduate' from aid when they are successful, this makes it challenging to determine the direction of causation in the relationship between aid and growth—i.e., do countries get more aid because they are poor or does more aid make countries poor? This problem, termed 'endogeniety' in the parlance of econometrics, makes it hard to identify the impact of aid on growth. Researchers try to deal with this by controlling for as many determinants of growth as possible, but given the multifaceted nature of the growth process one cannot exhaustively control for all factors.

On top of this, and as pointed out by Tarp (2006) and Arndt, Jones and Tarp (2010), noise and mis-measurement in the data, the complexity and idiosyncratic nature of the growth process and the lack of methods that can concurrently address these problems, have made identification of the impact of aid on growth challenging. Nonetheless, due to improvements in the quality of data and on-going methodological developments, more realistic and convincing empirical assessments of the aid–growth relation are now emerging.

Misreading of the available evidence plays its own part in fuelling the controversy in the aid effectiveness debate. In principle, lack of evidence (what is commonly referred as an 'insignificant coefficient estimate' in the language of econometrics/statistics) does not imply absence of evidence as to the effectiveness of aid.[11] It simply tells that one does not find enough

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[9] '… it is relevant to stress that there is widespread agreement in the literature that aid has in many cases been highly successful at the microeconomic level. The most rigorous project evaluations are done by the World Bank, and reports from the Independent Evaluation Group of the World Bank are generally encouraging. For the period 1993-2002 an average rate of return of 22 per cent has been noted and decent project rates of return have over the years been reported regularly in one survey after the other …' Tarp (2006).

[10] Reference can be made here to ReCom research that is now being explicitly referred to in the new draft British legislation following the House of Lords Select Committee on Economic Affairs call for evidence on the economic impact and effectiveness of development aid. Moreover, senior IMF staff participated actively in the UNU-WIDER-AERC aid conference in Nairobi and confirmed that ReCom research is now seen as the key reference point when it comes to aid–growth research. This is also clear from the number of hits and ranking of a ReCom paper by Arndt, Jones and Tarp (2010) as the most popular downloaded paper of the Journal of Globalization and Development; see http://www.bepress.com/jgd/topdownloads.html. Finally, the chief economist and senior vice-president of the World Bank invited UNU-WIDER to post a blog on ReCom aid-growth research as this was seen as highly pertinent to the Busan meeting ; see http://blogs.worldbank.org/developmenttalk/blog/95.

[11] See Temple (2010) for further background and discussion.

evidence to disprove the null hypothesis; i.e., to suggest the presence of 'an effect' given the data and time period used for the analysis at hand. Such evidence is just one possible outcome and cannot be taken as proof of absence of an effect in general. Therefore, studies with a statistically insignificant estimate of the impact of aid on growth should not be taken as proof of aid ineffectiveness. However, this type of misreading of the evidence regularly is observed in the aid–growth literature.

Arguably, addressing the following three points could also help narrow down disagreements around the aid–development discourse.

- **Setting the right benchmark in measuring aid effectiveness**

Donors give aid for various reasons; spurring short-term economic growth has not been the sole/primary objective. In light of this, one can argue that success in economic growth, though important, should not be the only benchmark to measure aid effectiveness and hence to justify aid allocations to poor countries. The role that aid is playing in changing peoples' lives should be given equal weight.

In fact improvement in quality of life (for example, via better access to health services, education, sanitation, safe drinking water, and better institutions, etc.) is the main aim and target of most foreign aid programmes particularly following the Millennium Development Goals (MDGs). As is made evident from recent research findings, aid is reasonably effective when measured against these initial objectives (motives).[12]

- **Modest expectations versus the 'results agenda'**

As highlighted above, following the advent of MDGs, donors tend to channel most of their assistance to social sectors like health and education.[13] Although these outcomes are important in their own right, as emphasized above, their contribution to economic growth should not be ignored. Given this, assessing the impact of aid on growth is a relevant exercise. However, as is also pointed out by Arndt, Jones and Tarp (2010) such outcomes normally have a cumulative but not immediate impact on growth and it often takes **long time** period until the return of these outcomes is translated to economic growth. Based on recent theoretical predictions, these authors also suggest the need to keep our expectations both modest and realistic, particularly concerning the potential impact of aid on growth. These, coupled with data and methodological challenges in identifying the impact of aid, accentuate the need to have a modest expectation regarding the impact of aid on growth—both in terms of the size of the impact and the time period (short versus long run) we expect to see an impact.

On the other hand, at present, donors (including aid agencies and tax payers in donor countries) are starting to pay increased attention to 'positive results'. Even if evaluating the value of tax payers' money using results on the ground is appropriate, it may not always be easy to find impacts *in the short to medium term* due to the reasons discussed above. This in turn might create disappointment on the part of donors and may induce them to focus on areas with quick and easy

[12] See Masud and Yontcheva (2007); Mishra and Newhouse (2009); and Arndt, Jones and Tarp (2011).

[13] See a variety of ReCom background papers for further detail on the composition of aid and how aid has evolved over time.

to measure returns. In this case, assistance to slow-moving and yet crucial outcomes like institution-building will be neglected. Thus, there is need to strike a balance between modest/realistic expectations and the results agenda.

- **Retrospective analysis of history and country experiences**

History and country-specific success stories are a valid and yet often neglected evidence base concerning the positive role that aid can play in enhancing growth and development. It is a fact that lots of countries which used to receive lots of aid have indeed successfully managed to 'graduate' out of aid and some are now emerging as new donors. While not econometric in nature, such evidence is to be counted with in assessing the overall relationship between aid and growth.

In other words, retrospective analysis of history and country experiences over the longer term should at least help shape attitudes and expectations regarding the potency of aid in supporting growth and development. To illustrate, Arndt et al. (2007) have shown how sustained aid can be critical as a precondition for developmental success with reference to the case of Mozambique. These authors have shown how a high level of sustained aid to Mozambique helped this country to smoothly establish peace, handle the difficulties of post-war stabilization, and embark on widespread reconstruction.

There are many other such cases, including for example Vietnam and South Korea, which illustrate the role that aid can play in facilitating the development process of a country. Both Vietnam and South Korea have been among the largest aid receivers in the world—although in different decades. The same can be said of Taiwan, and to conclude there is reason to reiterate that *The Economist* has suggested that Africa may well have turned a critical corner when it comes to its growth performance. This is also reflected in one of the major themes in the current international aid debate. This is the challenge which the International Development Association (IDA) may face, as further countries will graduate to middle-income country status over the coming years, and what should be done about it. This does not suggest to us that the big historical aid–growth picture is one of failure.

3 The impact of aid on growth

As part of its objective to identify and communicate the evidence on 'what works', 'what does not' and 'where we should do better', ReCom has also taken a fresh look at the aid–growth debate which relies on econometric evidence. Accordingly, a range of research papers have been produced thus far on aid, growth, and macroeconomic management, applying different methodologies and analytical approaches. Despite the controversial and somehow gratuitously pessimistic recent evidence regarding the impact of aid on growth, the empirical results from ReCom papers and overview provide a consistent and a rather positive picture and assessment of aid's impact on growth. A brief summary of the findings of four selected studies and the corresponding key messages are presented below. We highlight that they are in broad consonance with other ReCom background and survey work.

3.1 Evidence from cross-country research

Despite the broad range of agreed positive impacts of aid at the micro level, the macro-level impact of aid has on growth remains as noted contentious. As outlined in Section 2 there has even been a particular pessimism expressed in recent years based on cross-country research, including work by Rajan and Subramanian (2008). Should one take this pessimism seriously? The answer is 'no'. This is demonstrated in the *Journal of Globalization and Development* ReCom paper by Arndt, Jones and Tarp (2010). They clearly show both why pessimism is unfounded and how a well-designed empirical research does indeed provide robust empirical support for a positive impact thesis, even at the macro level. Using cross-country analysis and methods from the programme evaluation literature, the authors demonstrate how foreign aid has a positive but ***modest*** growth enhancing impact in the ***long run***.

In particular, the main empirical findings of this paper show a positive and statistically significant impact of aid on growth in both the 1960-2000 and 1970-2000 time periods. Specifically, 'an inflow [of aid] on the order of 10 percent of GDP spurs the per capita growth rate by more than one percentage point [1.3] per annum in the long run' (p. 23).

The authors also note that these findings are consistent with the view that foreign aid stimulates aggregate investment and also contribute to productivity growth, despite some fraction of aid being allocated to consumption. In addition, the size of the reported effect appears to be very close to the modest impact predicted by recent growth theories. On the other hand, as the analysis by Arndt, Jones and Tarp (2010) shows, the impact of aid in the short run appears to be difficult to detect.

Key messages

- First, the micro-macro paradox discussed in Section 2 above is clearly refuted and the empirical findings of the paper confirm that the recent pessimism about the impact of aid on growth is based on fragile evidence.

  To roughly see the real world implication of the above empirical findings, one can make a simple back-of-the-envelope calculation for sub-Saharan Africa (SSA). Over the period 1970-2000, the average aid to GDP ratio for the SSA region was 3.9 per cent and the average GDP per capita growth rate was -0.02. In the case where SSA had received no aid the findings of Arndt, Jones and Tarp (2010) suggest that the average (counterfactual) growth rate would have been -0.53 per cent.[14]

- The second message is the need to be realistic about the appropriate timeframe over which any growth effects from aid can be expected to materialize. As the authors indicate, even if aid financed investments in health, institutional quality, education and other welfare enhancing services have an impact on growth; this impact is not immediate and can only be identified with

[14] This is calculated by noting that the actual contribution of aid to growth is equal to its share in GDP multiplied by an aid-growth parameter of 0.13. Thus, the no aid scenario growth rate is as follows: -0.02-(3.9*0.13) = -0.53. If aid were increased to 10% of GDP the total contribution of aid to GDP growth would be 10*0.13 = 1.3 percentage points, or an additional (10-3.9)*0.13 = 0.79 percentage points over and above the actual growth rate of -0.02 which includes the impact of the actual aid at 3.9% of GDP.

a substantial delay. In addition Arndt, Jones and Tarp (2010) indicate that the volatility of the growth process in most developing countries coupled with the measurement problem in almost all variables of interest in the data makes it even harder to identify the impact of aid on growth in the short to medium run. Accordingly, the authors indicate that long time periods are the ideal choice to reliably detect the true aid–growth relationship.

- Finally, the findings of this paper accentuate the need to hold modest/realistic expectations regarding the impact of aid on growth. These authors, based on predications from recent growth theories, point out that overall expectations regarding the average impact of aid have often been excessive.[15]

3.2 Time series evidence

The econometric aid–growth research has in most cases been dominated by cross-country analysis as country-level time series data were in the past either unavailable (or available only for short time periods) or of very poor quality. Analysing the impact of aid on growth based on cross-country data thus appeared as the only avenue to arrive at reliable estimates (because of large sample size). Arguably, such studies also provide valuable insights (or reference points) about general trends and relations that can serve as an input for general policy discussions. However, it is well known (and widely accepted) that when it comes to formulating country-specific policies and strategies, cross-country data have their strict limitations. This is because such kind of analysis depends on averages that can potentially conceal country-specific realities. This emphasizes the importance of country-level time series evidence as the way to go in principle as such analysis better captures country-specific circumstances. Here ReCom has broken new ground. Due to both better data and improved methodology Juselius, Møller and Tarp (2011) have been able to carry out no less than 36 studies of SSA countries relying on time series data from the mid-1960s to 2007.

Accordingly, the Juselius et al. (2011) paper is a comprehensive study of the long-run effect of aid on a set of key macroeconomic variables. In particular, the authors try to identify the transmission mechanisms of the effects of foreign aid on the macro economy and establish whether foreign aid has had a positive long-run impact on investment, real GDP as well as on public and private consumption.

The findings provide clear support for a positive long-run impact of aid on the macro economy of recipient countries. Particularly, aid is found to have a significantly positive effect on either investment, GDP or both in 27 of the 36 SSA countries included in the study. For seven other countries, the effect of aid on GDP and investment is positive, but statistically insignificant from zero.[16] In only two countries (Comoros and Ghana) is the impact of aid on either GDP or investment negative and statistically significant. Moreover, a closer look at these countries is required. Especially for Ghana, the evidence may not be very strong as the observed strong positive effect of aid on GDP can potentially dominate the observed negative effect on

[15] The use of simplistic theory models like Harrod-Domar and Two-gap models to predict the impact of aid on growth has contributed to the escalation of expectations about the effectiveness of aid in promoting growth in developing countries.

[16] Please recall, this implies absence of evidence of impact, not evidence of absence of impact.

investment. Further ReCom research is underway to clarify the mechanism at work in Ghana, as well as in Tanzania.

In addition, according to the Juselius et al. results, there is transmission from aid-induced consumption to investment and growth. That is, even if aid (as expected) has led to an increase in private/public consumption expenditures, the long-run positive impact of aid on consumption is seen to be accompanied by a positive impact on investment and GDP growth in the majority of the countries in the sample. This indicates that the aid induced rise in consumption in SSA is not growth inhibiting implying the fact that other transmission channels are also at work. For instance, in the case of public consumption, an aid induced rise in consumption can potentially lead to higher growth if it is channelled to growth enhancing activities like health and education.

Key messages

- There is convincing time series country-level evidence to support that aid has a positive long-run impact on investment and GDP growth in SSA. A couple of cases merit further research, but the overall message is clear and compelling. To suggest that aid has no impact is simply not well funded with reference to the empirical evidence.

- The convergence of results from sound and up-to-date cross-country and time series analysis regarding the positive impact of aid on growth at the macro level is important. It strongly suggests that there is no micro–macro paradox in aid effectiveness. Instead, the paradox is embedded in inappropriate use of existing econometric methodologies and/or data issues.

- The qualitative results as to effectiveness of foreign aid are found to be similar in the majority of SSA countries, while these countries are found to be rather heterogeneous with respect to the transmission of aid to the macro variables. As is also indicated by the authors, this emphasizes the need to focus more on country-level time series analysis in order to give proper policy advice on individual countries.

- Moreover, the claim that foreign aid primarily leads to (wasteful) consumption without much improvement in investment or GDP growth appears to be unfounded. There is clear evidence that a positive consumption effect of aid has been accompanied by positive investment and growth effects in the majority of SSA countries.

3.3 Evidence from unpacking the aggregate impact of aid

Relatively little attention has been given in macroeconometric cross-country work to unpack the relationship between aid and growth. The majority of the research on aid effectiveness focuses on investigating the direct impact of aid on final outcomes such as economic growth. Consequently, there is limited evidence and hence knowledge regarding the channels through which the impact of aid on growth is transmitted. Cognizant of this gap, the latest ReCom research paper by Arndt, Jones and Tarp (2011) addresses the need to unpack the aggregate impact of aid on growth head-on.

The main objectives of this paper are: to quantify the causal impact of aid on a range of final outcomes (like economic growth, poverty, inequality, and structural change); intermediate outcomes, both economic and social (such as investment, consumption, tax, health, and education); and finally to unpack the aggregate aid effectiveness by quantifying the transmission channels from the key intermediate outcomes to economic growth. In so doing, the authors try to answer an important question: what has aid accomplished over the past four decades? As pointed out in the paper this is a relevant policy question that is equally important for both donors and recipients as its answer determines whether it is worth giving and receiving aid, respectively.

The results of the paper show a positive and statistically significant impact of aid on the different final outcome measures considered in the study. That is, aid is found to have a positive and significant impact on growth.[17] As further depicted in the results, health and physical capital investments are the channels through which the growth-enhancing effect of aid is realized. In addition, while aid is found to significantly lower the level of poverty (as measured by poverty headcount index), the results show no evidence that aid leads to inequality. Furthermore, aid is found to be associated with a more rapid expansion of the industrial sector and a relative decline of agriculture's share in GDP. This is consistent with the structural transformation inherent in the development process. The results also show positive and significant impact of aid on various intermediate outcomes including investment, government expenditure, government revenue, and social outcomes.

Finally, and to be specific, Arndt, Jones and Tarp (2011) find that a constant flow of foreign aid valued in real terms at US$25 per capita per annum (which is close to the mean) has yielded an annual growth bonus of about 0.5 percentage points.[18] This corresponds to an approximate internal rate of return (IRR) of 16 per cent over the 37 year period from 1970 to 2007.[19] This IRR calculation involves the following steps:

(a) Assume a starting income (GDP) of US$650 per capita and a counterfactual constant real growth rate of 1.5 per cent.[20] Put together, (i.e., compounding the income annually) this yields a projected series for per capita income over a specified horizon, in this case 37 years (1970-2007). This is the base case, 'without aid' scenario.

(b) Calculate a 'with aid' scenario, which is the base case modified to include a constant real growth rate of 2 per cent, which is the base case plus the growth dividend due to aid of 0.5 per cent (1.5 per cent + 0.5 per cent = 2 per cent).

[17] This result corroborates the finding from Arndt, Jones and Tarp (2010), and we note that the data period for the present paper is extended until 2007 and therefore provides an excellent robustness check.

[18] Note this calculation is also entirely consistent with Arndt, Jones and Tarp (2010). For instance, 3.9% of US$650 equals just over US$25; as previously noted, 3.9% is the average aid/GDP ratio for SSA, which was associated with a 0.51 percentage point contribution to growth.

[19] The internal rate of return (IRR) is the compound annual rate of return from a given 'investment project' which takes into consideration upfront and on-going costs, as well as subsequent cash flows. In other words, it is a measure employed to evaluate the entire cash flow of a project, including its costs, over a specified period of time. In the private sector, projects that yield IRRs above a specified hurdle rate, such as a market rate of return or cost of capital, are typically considered as good investment prospects. In the minimum, a positive IRR indicates that the positive cash flows from a project exceed its costs.

[20] The choice of starting income is subjective in nature, but we note that US$650 represents an approximate 1970 starting income per capita (at PPP) for low-income aid-dependent countries, such as Burkina Faso (US$669), Mali, Uganda and other (as per the AJT10 data set). We also note that the lower the starting point, the lower the IRR as the 0.5% growth bonus from aid is 'working' on a smaller base.

(c) Calculate the cash flow associated with aid. For each year this is given by the difference in per capita income between the 'with aid' and 'without aid' scenarios, minus the cost of aid (US$25).

(d) Based on the series of annual cash flows, the IRR is calculated as the discount rate that sets the net present value of this cash flow to zero.

Overall, the finding of an IRR of 16 per cent means that the higher average rate of economic growth attributable to aid has yielded benefits substantially in excess of the costs of aid and certainly on a par with market returns (cost of credit) in many developing countries.

Key messages

- Unpacking the aid–growth black box is crucial as the primary focus of most foreign aid programmes, particularly after the MDGs, is on intermediate (social) outcomes rather than economic growth. This helps to answer not only the question 'whether aid works' but also 'how it works'.

- There is no evidence to suggest that development assistance in the last 40 years has had an overall harmful effect on development outcomes. Rather, consistent and coherent results emerge regarding the positive impact of aid on a range of meso- and macro-level outcomes;

- In light of this, suggestions to cut back foreign aid on the grounds that it is not useful are tenuous. The current evidence clearly shows that aid has promoted structural transformation, reduced poverty, and stimulated growth, and one should note that an IRR of 16 per cent is very respectable indeed. Besides, aid is found to improve educational outcomes.

- The above evidence gives some guidance on useful aid priorities. It underlines the importance of physical and human capital accumulation as key transmission channels from aid to growth.

- One should not expect a 'quick win' as the evidence shows that 'long run' is the appropriate time horizon over which the positive impact of aid through the above transmission channels is likely to be revealed.

- There is no evidence to suggest that aid inhibits structural transformation as implied by the Dutch Disease theory, or weakens domestic revenue mobilization as claimed by aid sceptics.

3.4 Evidence from meta-analysis

One approach to assessing the empirical evidence on aid and growth is to ask: what does the accumulated empirical evidence, **on average,** say about the impact of aid on growth? Addressing this question using a so-called 'meta-analysis' technique where each study is treated as an observation of 'the underlying reality' is a key objective of the ReCom paper by Mekasha and Tarp (2011).[21] Accordingly, these authors focus on two main research questions that are common

[21] We highlight that while Mekasha and Tarp have pursued this line of enquiry under the ReCom umbrella this does not entail a methodological endorsement of the meta-analysis approach in the case of aid and growth. There are both theoretical and other

to any standard meta-analysis: (i) whether the empirical effect (of aid on growth) is different from zero when one combines the existing empirical evidence; and (ii) if so, whether the effect is genuine or an artefact of publication bias.[22]

In the course of their work, Mekasha and Tarp also provide a careful assessment of the study by Doucouliagos and Paldam (2008) (henceforth DP08), since they rely on their database of 68 aid–growth studies. DP08 concluded as noted in Section 2 that the aid effectiveness literature has 'failed to show a positive and statistically significant effect of aid on growth'. Mekasha and Tarp therefore start by replicating the core aid–growth analytical results of DP08, and in doing so identify three major concerns with the DP08 study: (i) problems with the econometric model choice; (ii) inappropriate statistical choices related to measurement of the effect of aid on growth and calculation of the weighted average effect of aid; and (iii) errors in data entry and coding.

Pursuing more appropriate choices that better reflect the econometric, statistical and data challenges at hand, and in line with best practices and guidelines in meta-analysis methodology, Mekasha and Tarp arrive at a conclusion that clearly contradicts that of DP08. In fact, the meta-evidence from the aid–growth literature (as defined by DP08) indicates that the impact of the aid on growth is, on average, positive, statistically significant and genuine; i.e., not an artefact of publication bias. While Mekasha and Tarp are careful not to overextend the implications drawn due to methodological and other concerns, their work is largely consistent with the other ReCom summarized in this report.

Key messages

- When one combines the accumulated empirical evidence on aid–growth, using appropriate meta-analysis techniques, the evidence suggests that aid has had a positive and significant impact on economic growth, on average. Moreover, this empirical effect appears to be genuine instead of an artefact of publication selection (bias).

- It has long been understood in the medical profession that a zero meta-impact result does not in any simple way mean that the medical practitioner should immediately stop the 'treatment' and leave the ailing patient alone. Instead, he/she should dig deep and find ways to make the treatment work better while trying to figure out what part of it works and what part does not. To be sure, an insignificant effect estimate is not a proof of absence of an effect—it simply indicates that there is lack of enough evidence to disprove the 'no effect' hypothesis.

3.5 Summary

Despite the underlying differences in methodology, data coverage and analytical approach, consistent and coherent evidence on aid effectiveness at the aid–growth macro level has emerged from the ReCom research effort. In particular, we find no evidence to suggest that aid has on a net basis done 'positive harm' to growth in recipient countries. On the contrary, based on the

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reasons to be wary, including that the studies which are summarized rely on differing data bases, periods of study and methodological approaches.

[22] Publication bias is said to arise when researchers, editors, and reviewers tend to favour statistically significant findings causing studies that yield relatively small and/or insignificant results to remain unpublished.

accumulated ReCom evidence, aid has clearly helped further growth and development. An IRR of 16 per cent is no small achievement. This conclusion is not to suggest that there are no challenges associated with receiving aid. Aid, like any other policy intervention, can potentially have undesirable effects.

A case in point, which is often raised by aid sceptics, is the macroeconomic challenge associated with real exchange rate appreciation and resulting potential adverse effects on the tradable sector. This issue is therefore pursued further in the next section, but we wish to stress here that no well-informed individual believes that aid has been beneficial in all places at all times. This does not, however, undermine the case for the principles underlying aid. Rather, it points to a need for redoubling our efforts to learn what works and could work—a central objective of ReCom.

4 Macroeconomic management of aid

Macroeconomic management challenges particularly those associated with aid-induced real exchange rate appreciation and the consequent *potential* contraction of the tradable sector (commonly termed 'Dutch Disease') is often cited as the main reason for aid ineffectiveness. This and other macroeconomic management topics were therefore at the centre of the UNU-WIDER-AERC conference 'Macroeconomic Management of Aid', held in Nairobi on 2-3 December 2011. A key lesson emerging from this conference as well other ReCom research and background work is that foreign aid should not be seen as a special case when it comes to the need for proper macroeconomic management.

Other foreign resource inflows can pose similar management issues. It is important to take this general lesson into account as the macroeconomic realities of aid recipient countries are changing over time. To illustrate, a number of previously aid-dependent countries are becoming natural resource-dependent, and in some cases resource revenues start to emerge as a much bigger source of foreign exchange earnings than foreign aid. Moreover, foreign exchange earnings from other capital flows, like remittances and FDI, are increasing over the years.

The following are the key detailed insights from the UNU-WIDER-AERC conference which included presentations and background papers from some 35 African scholars and international researchers including IMF research staff.

Key insights

- Dutch Disease problems are not an inevitable outcome of aid flows. Whether or not this problem causes a real challenge, by and large, depends on the macroeconomic management of aid which in turn hinges on the existing fiscal, monetary and exchange rate policies of the recipient country. As these policies are country-specific, so should be countries' macroeconomic responses to aid. This indicates the need for a case-by-case analysis to find out the optimal policy responses and determine if and when aid leads to Dutch Disease problem;

- A proper empirical diagnosis of the Dutch Disease problem should not focus on foreign aid in isolation. The respective impacts of other external capital flows also need to be taken into account. Thus, empirical research needs to carefully disentangle the impact of aid from the impact of other capital flows as failure to do so will lead to misguided policy advice;

- Prudent macroeconomic policy design should treat all capital inflows as part of the same challenge since real exchange rate appreciation is an unintended and yet avoidable consequence of all types of capital inflows. After all, it is the overall weight of foreign currency in the economy irrespective of its source—that eventually determines the level of the macroeconomic challenge (i.e. real exchange rate appreciation) that a country is going to face.

- Existing evidence often seems to suggest that there is indeed an aid-induced Dutch Disease problem to be addressed. However, such empirical evidence mainly arises when one focuses on the demand side (consumption effect) of aid, ignoring the supply augmenting role of aid. It is important to keep in mind that if aid is invested in productivity enhancing activities like investment in human capital and infrastructure development, the positive supply side effects may partly or fully offset the negative demand side effects. In fact, several ReCom and IMF papers suggest that whether the overall impact turns out to imply an appreciated or depreciated currency is an empirical matter that depends on a whole gamut of structural characteristics and policy choices. The UNU-WIDER-AERC conference noted a much more pragmatic approach to this from the IMF than seen before.

- The existing empirical research often focuses on investigating the aid–real exchange rate nexus without connecting the analysis with economic growth. An important empirical question that still remains unanswered is whether aid-induced real exchange rate appreciation leads to lower economic growth. Thus far, there is no empirical evidence to suggest that the unintended appreciation effects of aid outweigh its growth and development benefits.

- Co-ordination of monetary, fiscal and exchange rate policies are part and parcel of effective aid management practice, and the same goes for the composition of aid-financed spending (public investment). Aid-financed public investments need to pay balanced attention to productivity enhancing activities since such investments have the potential to augment the supply side of the economy and reduce the risk of the aid-induced Dutch Disease problem. Aid allocation has over the past couple of decades been tilted towards expanding social sectors like health and education and although these sectors are clearly important, it may by now be justified for policy makers to reconsider the balance between these sectors and more immediate growth-enhancing initiatives.

- Last but not least, it is not only the quantity of aid and policy actions of governments in recipient countries that matters for the effective macroeconomic management of aid. Donor actions and the quality of aid are equally important to ensure macroeconomic stability in aid recipient countries. Fragmentation, unpredictability and volatility of aid do not only create fiscal challenges but also hamper reform efforts and make macroeconomic management of aid complicated.

5 Key messages and lessons learnt

The main objective of this report was to reconsider the aid effectiveness evidence based on contemporary scientific research papers, implemented under the ReCom project, other literature and a variety of meetings. ReCom aid–growth research points to a positive, yet modest, and statistically significant impact of aid on growth performance in aid receiving countries. The pessimism expressed in recent aid–growth literature in general, and the claim of a micro–macro paradox in particular, is unwarranted.

At the same time, no well-informed individual believes that aid has been beneficial in all places at all times, and there are certainly instances where aid, like any other development intervention, has failed to fully meet its intended objectives for various reasons. It is important to see these failures as part of a learning process about one of the most difficult enterprises faced by humankind. Only by drawing on lessons from both successes and failures can one arrive at balanced view on the aid–development relation and aid's real potential in helping bring about development.

Moreover, while ReCom has contributed frontier research evidence, which is more or less in line with theoretical priors, the answer to aid's impact will in the final analysis depend on how the aid is structured, and there is a lot of heterogeneity in the aid–growth data, across countries, aid modalities, etc. If aid is structured and designed so that it reinforces the rent-seeking control of the government and reinforces the weaknesses of institutions, it is likely to have low impact.[23]

Another take away message from this report is that there is a limit to what and how much aid can do—aid should not be seen as a universal remedy. We thus need to have modest/realistic expectations both in relation to the size of the impact of aid on growth, and the time horizon over which we expect to see any impact. As predicted by growth theory, and confirmed by the ReCom empirical research; the impact of aid on growth is (while respectable) **modest** in comparison to needs and is only realized over the **long run.**

There is a recurring need to strive at unpacking the aggregate aid–growth relation and identify the transmission channels through which aid affects economic growth. In this connection, it is important to study the impact of aid on other social outcomes that are important in their own right.[24] In general, economic growth should not be taken as the sole benchmark against which aid effectiveness is assessed/measured, particularly in light of the focus that is being given to social sectors in association with the MDGs.

Last but not least, as is also pointed out by Tarp (2006), we have to continue to make a distinction between 'aid being less effective than possible' versus 'aid doing real harm' in terms of its growth impact. It is in the case of the latter that one should seriously reconsider the overall relevance of aid, while in the former what is called for is improved aid design. The good news is that there is no evidence to suggest that aid, on net, has done positive harm in recipient

[23] To put it differently, what helps induce growth is not spending on infrastructure, but infrastructure, as pointed out by Lant Pritchett, one of the key architects behind World Bank (1998), in a recent lecture organized by UNU-WIDER.

[24] This is a particular aim of other ReCom focus areas.

economies over the long run (here defined as 1979-2007). Even if, as discussed in Section 4, aid can potentially lead to unintended macroeconomic problems (Dutch Disease), this is not an inevitable outcome of aid.

The occurrence of Dutch Disease depends on the macroeconomic management of aid which in turn depends on the existing fiscal, monetary and exchange rate policies and associated institutions. Getting these policies and institutions right through policy co-ordination is a crucial element in making the most out of aid. We know that aid may influence institutions both positively and negatively. The important point emerging is that any negative impact does seem to be outweighed (on average) by positive effects over the longer run. Accordingly, giving up on the poor and cutting back aid flows does not appear as a prudent way to overcome unintended, yet avoidable, macroeconomic and institutional challenges, especially given an estimated internal rate of return of about 16 per cent in typical country cases.

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