GROWTH AND POVERTY REDUCTION IN DEVELOPING COUNTRIES: HOW MUCH EXTERNAL FINANCING WILL BE NEEDED IN THE NEW CENTURY?

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Abstract

This paper estimates the external financing needs of the developing world over the periods 2000-2009 and 200-2015, using a savings gap model. In particular, it projects the external financing required to achieve the international target of halving extreme poverty by 2015 in each developing region of the world. According to the projections, the external finance requirements far exceed even a very optimistic scenario of abundant capital flowing from the North to the South.

1. Introduction

As we enter the new century, international efforts converge to the fundamental objective of significantly reducing poverty across the world. It is commonly accepted that economic growth is needed to achieve this objective, but it is not clear how much growth is needed, and how much external financing is required to sustain higher growth. It is also the consensus that growth alone is not sufficient. Yet again, it is not clear what other policies can effectively contribute to poverty reduction, and whether or the extent to which such policies compete with the demands of higher growth for the same pool of financial resources.

Dollar and Kraay (2000) have recently defended the view that growth is highly beneficial to poverty reduction. And Collier and Dollar (1999), focusing mainly on the growth channel, have claimed that Aid can have a great impact on poverty reduction, provided it has the support of a stable policy environment.

Hanmer et al. (1999) have provided estimates of the growth rates required to achieve the internationally agreed target of halving extreme poverty by 2015 in each developing region of the world. However, the growth rates these authors estimate though moderately high in most cases, are extremely high for those regions that have historically witnessed a high degree of income inequality.

Indeed, Killick and White (1999) have argued that growth alone will not be sufficient to reduce poverty, particularly in Africa, while White and Anderson (2000) have

suggested that a strategy that combines growth and a better income distribution can have a better result in terms of poverty reduction.

This paper contributes to the debate on growth and poverty reduction by providing new empirical evidence that supports the view that halving poverty by 2015 through economic growth alone is an almost unattainable task. The paper thus argues that in order to increase the chances of meeting the international target of poverty reduction, a more inclusive growth strategy should be pursued, centred on tackling income distribution directly. Under this strategy recurrent expenditure should play a key role, but additional financing will still be needed.

The paper's objective is carried out in two parts. First, based on a savings gap model, it projects the external financing needs of developing countries over the 2000-2009 period, and in particular the external financing required to halve extreme poverty by 2015, using Hamner et al. (1999) growth estimates. The paper secondly discusses the role of recurrent expenditure in effectively contributing to the objective of poverty alleviation.

This paper is structured as follows. Following this introduction, section 2 provides an analysis of trends of savings and investment in developing countries during the 1990s. Section 3 offers projections of the annual external financing needs of low- and middle-income countries over the 2000-2009 period. Section 4 estimates the annual external financing needs of the major developing regions over the 2000-2009 period, and then the financing required to halve poverty by 2015. Section 5 discusses the role

of recurrent expenditure in poverty alleviation as well as need of complementary

financing for recurrent expenditure. Section 6 concludes.

2. Trends in savings and investment

In assessing the financing needs of developing countries, a first useful approximation can be made by looking at the trends in savings and investment rates in low- and middle-income countries during the 1990s.

It can be seen from Figure 1 that, first, there is a clear saving-investment gap in both low- and middle-income countries for most of the 1990s. Second, savings and investment trends in low-income countries are stable, with investment rates being slightly above 20% (of GDP) and savings slightly below this level (see also Table 1 below). Third, in middle-income countries the trends are less stable, particularly the investment trend, which is upward until 1995 with a reversal from then on, and a marked decline in 1998. The drop in 1998 is associated with the financial and currency crises and their contagion effects that hit different countries (and middle-income countries more acutely) across the world.

Figure 1: Investment and Savings by group of countries (% GDP)
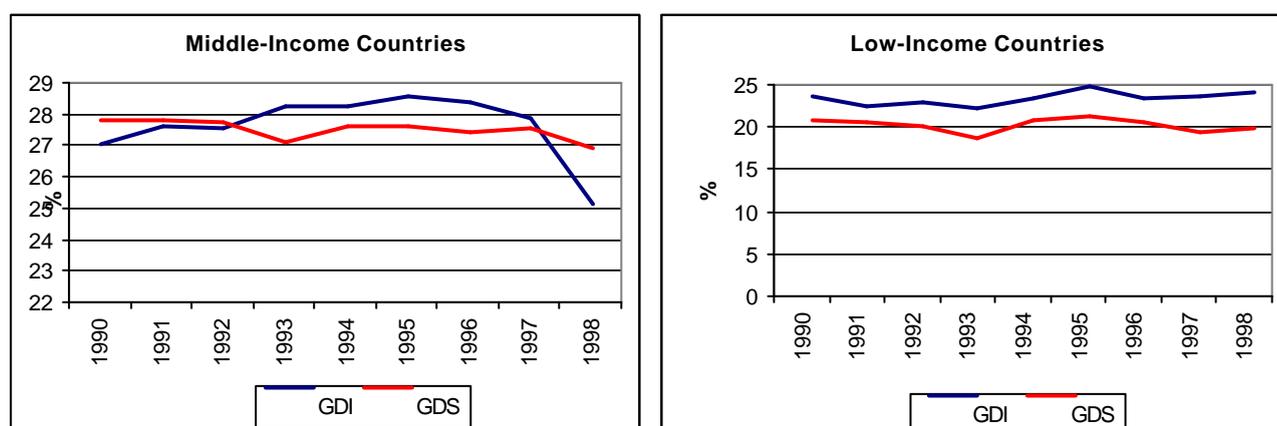
Source: Author's calculation based on data from the World Development Indicators CD-Rom 2000. GDI and GDS stand for gross domestic investment and gross domestic savings, respectively. They are weighted averages drawn from countries for which data were available. The list of countries by group can be found in Appendix 1.

But a less homogenous picture is found at the regional level (see Figure 2).

Figure 2: Investment and Savings by Regions
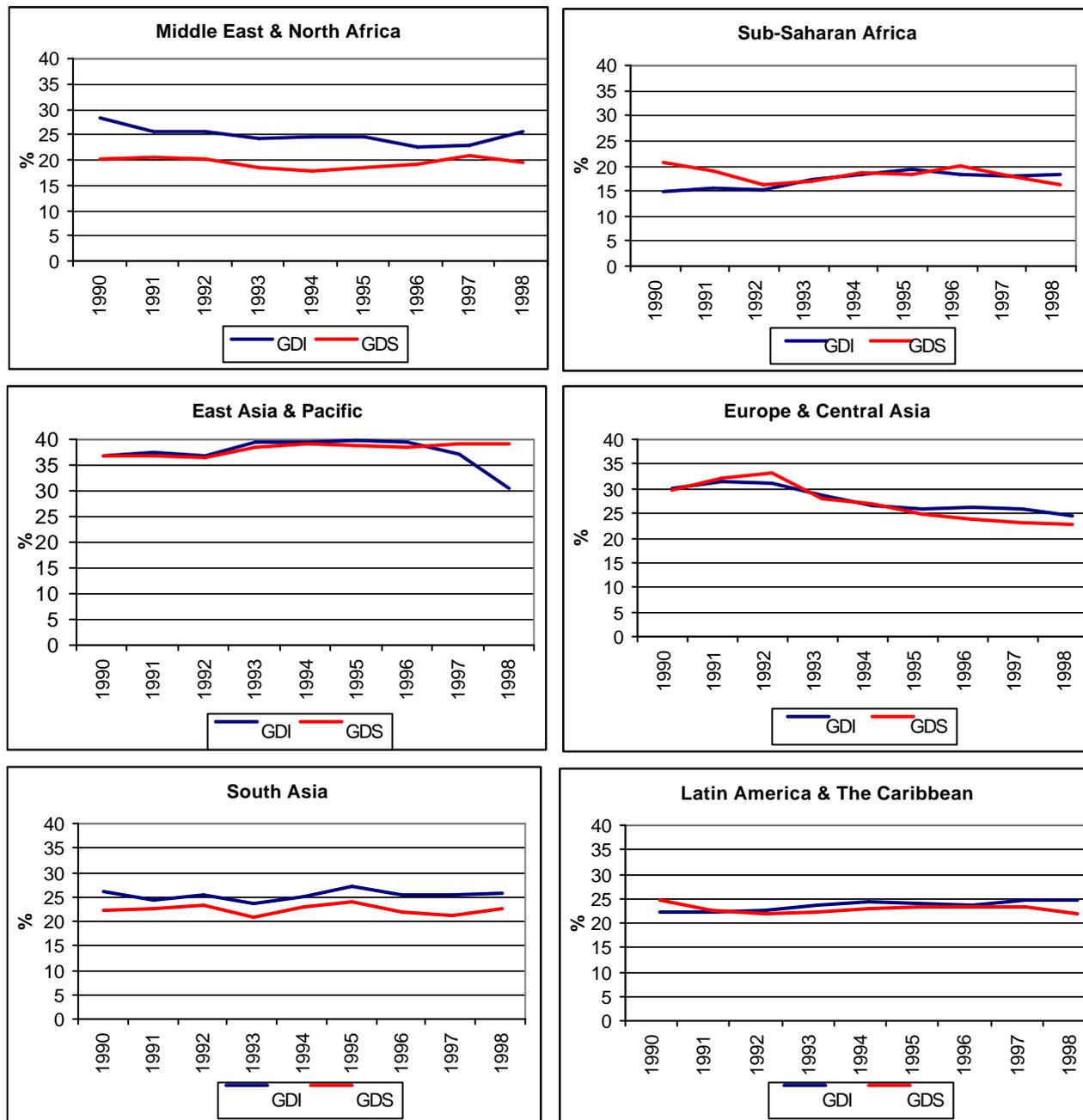
(share of GDP %)

Source: Author's calculation based on data from the World Development Indicators CD-Rom 2000. GDI and GDS stand for gross domestic investment and gross domestic savings, respectively. They are weighted averages drawn from countries for which data were available. The list of countries by region can be found in Appendix 1.

Figure 2 shows the trends in savings and investment rates over the 1990s for each major developing region – East Asia & Pacific, South Asia, Middle East & North

Africa, Sub-Saharan Africa, Europe & Central Asia and Latin America & the Caribbean.

The East Asia & Pacific region exhibits positive trends in investment and savings levels until 1995, with a slight decline in investment in 1996 and 1997, and a sharp drop in 1998 due to the adjustment effects of the East Asian crisis. By 1997 savings were around 37% of GDP and investment 35% (Table 1).

The trends for all other developing regions are less stable. Investment levels in South Asia are variable, while in the Middle East & North Africa and Europe & Central Asia they exhibit a declining trend. The fall in the latter group of countries reflects the transition of most countries of the region from a planned to a market economy. In Sub-Saharan Africa and Latin America & the Caribbean a gradual increase in investment levels took place during the 1990s, following the depressed levels resulting from the debt crisis of the 1980s.

In sharp contrast to East Asia and Pacific, savings levels showed variability in South Asia and Middle East & North Africa, and a declining trend in Sub-Saharan Africa, Europe & Central Asia and also, though less markedly, in Latin America & the Caribbean.

In addition, all other developing regions differ from the East Asia & Pacific area by exhibiting much lower investment and savings levels and, most importantly, by showing a marked, though variable, savings-investment gap. The average level of

investment over 1990-98 of such regions ranged from 22% to 26% of GDP, while savings varied between 17% and 25% (Table 1).

Table 1: Investment (GDI) and Savings (GDS) 1990-98   % GDP

Region/Group		1990	1995	1998	1993-97	1990-98
East Asia & Pacific	GDI	35.0	38.1	28.8	37.3	35.6
	GDS	34.8	37.1	37.4	37.0	36.3
South Asia	GDI	23.2	24.2	22.8	22.4	22.5
	GDS	19.4	21.1	19.5	19.3	19.5
Middle East & N. Africa	GDI	27.4	23.8	24.7	22.9	24.0
	GDS	19.4	17.8	18.6	18.1	18.7
Sub-Saharan Africa	GDI	14.1	18.3	17.5	17.4	16.4
	GDS	19.9	17.3	15.5	17.5	17.4
Europe & Central Asia	GDI	28.3	24.1	22.5	24.8	25.9
	GDS	28.0	23.1	21.0	23.5	25.3
Latin America & The Caribbean	GDI	19.3	21.1	21.9	21.1	20.7
	GDS	21.6	20.4	19.1	20.0	20.0
Low-Income Countries	GDI	21.4	22.5	21.8	21.3	21.2
	GDS	18.5	19.2	17.7	18.1	18.1
Middle-Income Countries	GDI	26.5	28.0	24.6	27.7	27.0
	GDS	27.2	27.0	26.3	26.9	26.9

Source: Author's calculation based on data set from the World Development Indicators CD-Rom 2000. Regional/Group GDI and GDS are a weighted average drawn from countries for which data were available. The list of countries can be found in Appendix 1.

The savings-investment gap is a first indication of the amount of external finance that developing countries need in order to sustain growth and development. However, a more accurate way of assessing these countries' external financing needs is to compare domestic investment with national rather than domestic savings, as the former takes account of interest payments on external debts (as well as transfers). The difference between domestic investment and national savings is a measure fairly comparable with the current account of the balance of payments.

The annual current account deficit of developing countries over the period 1995-97 was, on average (in current US$ dollars) 81 billion, and reduced to US$ 54 billion in 1998 (Global Development Finance Report, 1999), partly because of the adjustment measures adopted in response to the East Asian and Russian crises. The 1998 deficit

corresponds to 0.5 per cent of these countries' combined GDP. For 1999 a surplus of 0.3 of their GDP was estimated, the same ratio being predicted for the year 2000. For 2001 and 2002 deficits of 0.2 and 0.4 per cent respectively are being forecast (see Table 2).

Net external finance, which differs from current account deficit by including changes in reserves, peaked at US$ 183 billion in 1995, and then receded to US$ 102 billion in 1998.

Table 2: Net External Finance and the Current Account Deficit of Developing Countries 1991-98

	1991	1995	1997	1998	1999	2000	2001	2002
Net external finance (U$ billion)	89.0	183.1	110.8	102.1				
Current account deficit (U$ billion)	51.2	87.3	84.4	53.6				
Current account deficit % GDP[1]				0.5	-0.3	-0.3	0.2	0.4

Source: Global Development Finance – Analysis and Summary Tables 1999 and 2000.
1. Estimate for 1999 and forecast for 2000-2002.

The shift from an estimated surplus in 1999 to a deficit in 2002 reflects a positive scenario of higher growth over the period 2000-2002 – 4.6% in 2000 and 4.8% in 2001 and 2002 – as compared to the estimated 3.1% in 1999 (Global Development Finance Report 2000).

3. External financing needs of low- and middle-income countries

Based on a savings gap model, we can run simulations and estimate the net external financing needs of developing countries over the 2000-2009 period. Using the savings gap model involves two basic steps. First, based on the incremental capital-output ratio (ICOR), the investment rate required for achieving a certain growth rate is calculated. Second, the gap between the investment required and national savings is

calculated. This gap should thus be filled through external financing (the model, assumptions and set of parameters used are presented in Appendix 2).[1]

The net external financing needs estimated by the model essentially correspond to the countries' projected current account deficits over the period being covered.[2] It takes account of four major determinants of the current account: the savings-investment gap (which is equivalent to the difference between imports and exports of goods and services net of factors), profit remittances, interest payments on external debt and unilateral transfers.

We consider a *base scenario* in which low-income and middle-income countries are expected to experience similar growth rates. Such growth rates are fully consistent with those used in the simulations by regions, most of which are based on the current forecast growth reported by the Global Development Finance 2000 (see below).[3]

Table 3: Net External Financing Needs of Developing Countries, by income-country groups

Base scenario		Annual average	U$ billion at 1998 prices	
	2000-2002	% GDP	2000-2009	%GDP
Developing Countries	141.3		232.0	
Low-Income Countries	23.2	2.4	34.5	3.0
Middle-Income Countries	118.1	1.9	197.5	2.8

Source: author's calculations.

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[1] In the past few years there has been some scepticism regarding the use of the gaps approach for the purpose of estimating external financing needs (see for example, Easterly, 1999). While we agree that the gaps approach has limitations, it should be clear that it can prove useful in estimating long-term financing needs for countries expected to experience sustained growth. The empirical evidence points to a stable long-term relationship between investment and growth (while it is true that in the short run the relationship appears rather variable); and although causality might run either way, it is of little dispute that investment is a crucial factor behind productive capacity and long-term growth.

[2] It therefore does not take account of the financing needs of the capital account, for example the financing necessary for principal payments.

[3] The growth rates used for low-income and middle-income countries are 5.0%, 5.3% and 5.5% for 2000, 2001 and 2002, respectively. For the 2003-2009 period, the 2002 growth rate was used.

Our projections indicate that the annual net external financing needs of developing countries over the period 2000-2002 will be US$ 141 billion (Table 3). This amount is far bigger than the current account deficit observed for such group of countries in 1998 – US$ 54 billion – and more than the external finance provided to them in the same year – US$ 102 billion (see Table 2).

This difference reflects higher financing needs associated with a projected economic recovery for the developing world. But such projected financing needs in proportion to GDP are within the range of 1.9-2.4% (see Table 3) This figure is of a similar order of magnitude when compared to the current deficit of 2% observed over the years 1991-97 (Global Development Finance Report 2000). In this period growth resumption was observed across the developing world thus providing a better basis of comparison than the recession year of 1998.

Of the total external finance required, 84% (US$ 118 billion) corresponds to the needs of middle-income countries, and 16% (US$ 23 billion) to the needs of low-income countries. The annual average external financing needs for the years 2000-2009 are higher as the projected growth rates of the initial period are expected to continue over the entire period.

It should be recalled that financing needs as defined here do not take into account those external obligations recorded in the capital account of the balance of payments. If principal repayments for example are accounted for, then the external financing needs of low-income and middle-income countries will be 3.9% and 4.4% of their GDP, respectively.

Table 4: Principal repayments[1]

	Annual average %GDP
	2000-2002
Low-Income Countries	1.5
Middle-Income Countries	2.5

Source: Global Development Finance Country Tables 1999.
1.Principal repayments correspond to the amount due for 1998
divided by the projected real GDP over 2000-2002.

Table 4 reports the ratio of principal repayments to GDP in low- and middle-income countries under the very conservative assumption that the 1998 principal repayments will remain constant in real terms over the 2000-2002 period.

4. External financing needs of developing regions

Net external financing needs differ quite considerably across developing regions. Table 5 reports the annual average external financing needs of six developing regions over the 2000-2009 period under the *base scenario*. In addition, it provides estimates of the annual financing required to halve poverty by 2015 – the *poverty-reduction target scenario*.

Growth rates under the *base scenario* are drawn from the current forecast of The Global Development Finance 2000 report. This report offers growth rates for each developing region over the 2000-2002 period.[4] Such growth rates are similar to those experienced by the regions between 1993 and 1997, which was the period we drew upon to obtain some of the key parameters of the model, such as ICOR and savings rates. East Asia & Pacific was the exception to that, as the region's average growth

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[4] For the remaining years – 2003-2009 – growth rates being forecast for 2002 were used.

was 8.5%[5] over the 1993-97 period, while the growth forecast in the report falls into the range of 6.1%-6.6%. In order to keep a degree of consistency between the parameters used in the simulations, in the case of East Asia & Pacific we used the growth rates observed in the past rather than those being currently forecast.

The *poverty-reduction target scenario* uses the growth rates that are believed to be necessary (though not sufficient) to halve extreme poverty (i.e. those living on less than U\$ 1 dollar a day) by 2015 in each developing region. These growth rates were drawn from Hanmer et al. (1999), and are also reported in DFID (1999).[6] The growth rates used to generate each of the above scenarios are displayed in Table 6.

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[5] This growth rate is based on weighted growth rates of the countries of the region from which parameters were obtained. These countries are listed in Appendix 1.
[6] Since such growth rates in Hanmer et al. (1999) and the DFID document are provided in per capita terms, in order to obtain total growth we use the average annual population growth rate over 1998-2015, drawn from World Development Indicators 2000.

Table 5: Net External Financing Needs of Developing Countries, by Regions

Annual average

	Base scenario[1] 2000-2009		Poverty-reduction Target scenario[2] 2000-2015	
	U$ billion [3]	% GDP	U$ billion [3]	% GDP
East Asia & Pacific	53.2	1.9	n.d.	n.d.
South Asia	4.4	0.6	4.9	0.5
Middle East & North Africa	42.4	5.8	57.8	7.2
Sub-Saharan Africa	27.7	6.5	86.4	12.7
Europe & Central Asia[4]	66.8	5.3	24.9	2.4
Latin America & The Caribbean	26.6	0.9	281.1	6.2

Source: author's calculation. 1. Growth rates used in the *base scenario* are drawn from the current projections of the Global Development Finance 2000. 2. Growth rates used in the *poverty-reduction target scenario* are drawn from Hanmer et al. (1999), also reported in DFID (1999). 3. The values are set in 1998 constant prices. 4. For Europe & Central Asia, financing needs under the *poverty-reduction target scenario* are smaller than under the base scenario because, in spite of its slightly higher growth rates, in *the poverty-reduction target scenario* a gain in capital efficiency is assumed to take place from the 6th year on.

Table 6: Annual growth rates

%

	Base scenario[1]			Poverty-reduction target scenario[2]
Years	**2000**	**2001**	**2002**[3]	**2000-2015**
East Asia & Pacific	8.5	8.5	8.5	4.3
South Asia	5.9	5.8	5.5	5.5
Middle East & North Africa	3.5	3.6	3.6	4.7
Sub-Saharan Africa	3.2	3.7	3.8	8.2
Europe & Central Asia	2.5	3.4	3.6	3.9
Latin America & The Caribbean	3.6	3.8	4.4	10.2

Sources: Global Development Finance 2000 and DFID 1999. 1. Growth rates used in the *base scenario* are drawn from the current projections of the Global Development Finance 2000. 2. Growth rates used in the *poverty-reduction target scenario* are drawn from Hanmer et al. (1999), also reported in DFID (1999). 3. The growth rates used in 2002 are replicated for the years 2003-2009.

4.1. *Base scenario*[7]

The net external financing needs of each developing region, defined here by the amount of external resources needed to finance their current account deficits, vary

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[7] It should be noted that, although similar, the total estimated values of financing needs derived from the simulations by income-groups and by regions are not the same. Given that the parameters used in the simulations by income-groups and regions are fully consistent, the difference is explained by the dynamics of the simulations. This problem could be overcome by running simulations for each developing country rather than for groups of countries. This is not feasible due to lack of data information.

considerably across regions, from US$ 4.4 billion a year in South Asia to US$ 66.8 billion a year in Europe & Central Asia (see Figure 3). A considerable, though smaller, variation can also be observed when financing needs are measured as a proportion of GDP. They range from 0.6 for South Asia to 5.8 for Middle East & North Africa.

Figure 3: External Financing Needs, 2000-2009 - base scenario
Annual average U$ 1998 billion
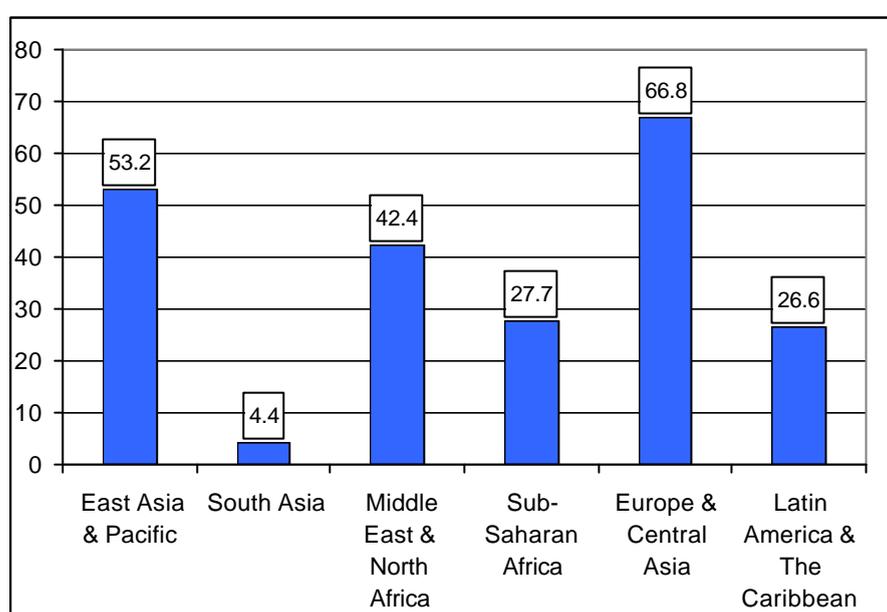
Source: Author's elaboration based on simulation results (see Table 5 and Appendix 2 for details)

Of the four major determinants of the current account balance, the two most important are the savings-investment gap and interest rates on external debt. For example, these factors respectively explain 75% and 22% of external financing needs of the Sub-Saharan region in the year 2002. The savings-investment gap is all the more important in explaining the financing needs of regions like the Middle East & North Africa and Europe & Central Asia. In these regions the gap corresponds respectively to 118% and 90% of their financing needs in 2002. Its prominence is due to these regions' low

efficiency of capital (especially in Europe & Central Asia) and relatively low savings rate (especially in the Middle East & North Africa).

South Asia fares rather well due to the fact that its savings-investment gap, though significantly high, is almost all offset by unilateral transfers, mostly in the form of workers' remittances. In the case of Latin America & The Caribbean, its financing needs are reasonably low on average (0.9 of their GDP), partly because of a current account surplus estimated for the initial years as a result of a predicted lower economic growth. Table 5 shows that financing needs will be particularly high for the Middle East & North Africa, and Europe & Central Asia because of their low levels of capital efficiency, and consequently the higher investment levels needed to meet higher growth targets.

4.2. *Poverty-reduction target scenario*

In this scenario we estimate the net external financing necessary to halve extreme poverty by 2015 in each developing region of the world. It builds upon growth rate targets which are believed to be necessary (though not sufficient) to meet such poverty reduction target. Such growth rates take account of the degree to which poverty reduction responds to growth, and have a strong correlation with levels of income inequality in each region. For example, it can be seen from Table 5 that regions such as Latin America & The Caribbean which are notable for having highly unequal income distribution will need extremely high growth to reduce poverty, whereas the opposite applies to regions with better income distributions such as Europe & Central Asia and (especially) East Asia & Pacific.

To calculate the external financing needs under the ***poverty-reduction target*** scenario, some of the parameters of the ***base scenario*** were modified, to remain consistent with the much higher growth rates required to meet the objective of halving poverty. If such changes were not made, the new projections of financing needs would be completely unrealistic.[8]

These changes are basically twofold. First, the average efficiency of capital is set to increase from the 6th year on (i.e. ICOR falls), a plausible hypothesis after a few years of sustained growth. This applies to all regions except South Asia, given that the ICOR being used for that region is already relatively low. To Sub-Saharan Africa and Latin America & The Caribbean, this applies right from the first year given that these two regions will need particularly high growth rates to halve poverty by 2015, as can be seen from Table 6 (see detailed explanations in Appendix 2).[9] In addition, for the latter two regions savings rates are adjusted upwards.

This is accomplished in two steps, the first in the year 2000 and the second from the sixth year on. The underlying rationale of this upward adjustment is that in these two regions the particularly high growth rates being projected are expected to induce a quick and sustained increase in the regions' savings levels (see details in Appendix

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[8] For example, the net external financing needs for Latin America & The Caribbean would be an annual average of U$ 1.6 trillion, and for Sub-Saharan Africa, U$ 248 billion. These values are set in 1998 prices.
[9] The ICOR is set to fall by 30%. For example, for Latin America & The Caribbean it falls from 4.67 (base scenario) to 3.27, and for Sub-Saharan Africa, from 5.96 (base scenario) to 4.17 (see Appendix 2).

2).[10] This correction addresses the endogenity problem regarding savings sensitivity to growth. It should be noted however that for this to happen conditions favourable for growth should be in place, otherwise additional external finance might result in higher consumption levels (thus leading to stagnating investment and lower savings) rather than higher investment and savings.

Even after such adjustments (intended to reduce the projected financing gaps), the external financing needs of Sub-Saharan Africa and Latin America & The Caribbean are significantly higher than in the *base scenario* (see Table 4). The estimated external financing needed for Latin America is 6.2% of the region's GDP, and for Sub-Saharan Africa, 12.7%. In the initial three years – 2000-2002 – such needs are even higher – 9.6% and 16% of the regions' GDP, respectively. If we add to these latter figures principal repayments due estimate for 2000-2002 (as calculated above), then external needs go up to 12.7% and 17.7%[11](see Figure 4). These needs are such that reducing poverty solely through growth becomes almost unattainable.[12]

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[10] It should be noted that for the purpose of reducing the financing gap, adjusting savings rates up is equivalent to using lower growth rates.

[11] As noted before, such results are very sensitive to a change in parameters. If for Latin America & The Caribbean ICOR were reduced further from 3.26 to 3.0, the external financing needs would be of US$ 126 billion rather than US$ 281 billion. In the Sub-Saharan case, ICOR being reduced further from 4.17 to 3.5 would result in external financing needs of about US$ 126 billion (rather than US$ 281 billion). However, although ICOR is expected to fall due to gains in efficiency, a too low ICOR is unlikely to be the case with economies supposedly running at full capacity (due to rapid and sustained growth) over a long period of time.

[12] The view that growth alone will not be sufficient to reduce poverty, particularly in Africa, has been expressed previously, for example by Killick and White (1999), who reached such a conclusion based on a more comprehensive analysis which highlighted the negative effects of a current trend of growing inequalities.

Figure 4: External Finance 2000-2002 Poverty-reduction scenario
(% of GDP)
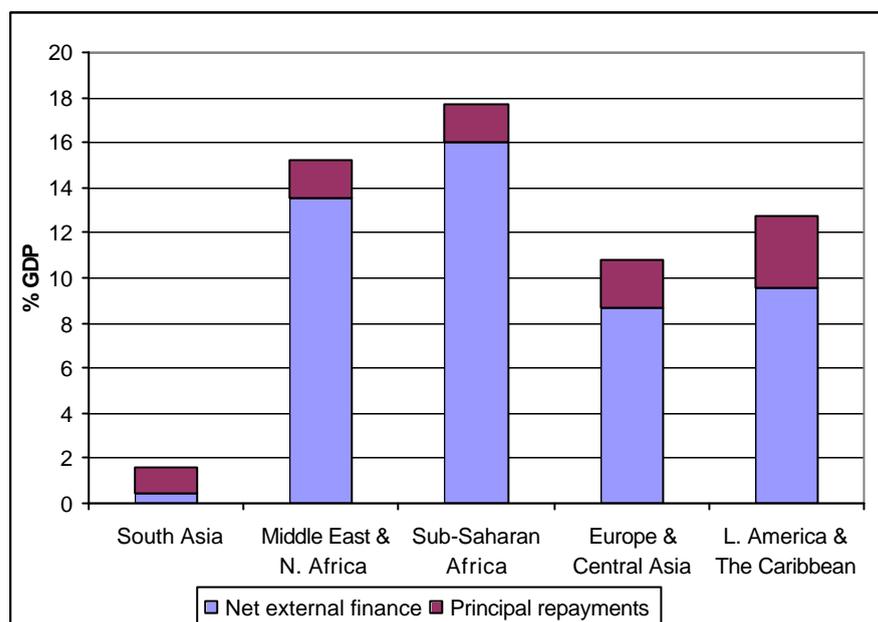
Source: Author's elaboration based on simulation results (see Table 5 and Appendix 2 for details) and Global Development Finance Country Tables 1999.

5. The challenge to reduce poverty

In the 1990s the only developing region that succeeded in reducing extreme poverty substantially was East Asia and the Pacific. In all other regions extreme poverty reduction was either just modest or hardly discernible (World Development Indicators 2000). Our projections indicate that for marked poverty reduction to occur much higher growth and far larger amounts of external finance will be needed compared to the levels observed in the 1990s.

However, as hinted above it is very unlikely that Sub-Saharan Africa and Latin America & The Caribbean will be able to reduce poverty in a dramatic way through economic growth alone. In order to halve poverty by 2015 these two regions would have to experience 'dream growth rates' of 8.2% (Sub-Saharan Africa) and 10.2%

(Latin America) over the next 15 years or so. Such rates are far above what these regions have ever managed to achieve. But even if these rates were economically feasible, the regions would require external financing on a continuous basis which would far exceed even a very optimistic scenario of abundant (public and private) capital flowing from the North to the South.

For poverty to be reduced by the amount that has been targeted, a more inclusive growth strategy should be pursued, centred on tackling income distribution directly. The idea that a strategy that combines growth with better income distribution can have a better result in terms of poverty reduction has been suggested by White and Anderson (2000). This idea challenges an old view that there is a trade off between these two major development objectives.

So far the focus has been on income poverty. However important it might be to tackle poverty, the real target should be poverty broadly defined that has human well-being as its central dimension. This means going beyond the concerns of increasing the incomes of the poor and requires implementation and/or enhancement of public policies and mechanisms to improve critical social indicators such as mortality rates and education provision. Recurrent expenditure should play a key role in that process, but this also needs finance.

5.1. *Complementary financing for recurrent expenditure*

Recurrent expenditure can be related to the provision of a wide variety of goods and services, ranging from health services to current spending on civil service pay. It is broadly accepted that resources devoted to basic services are too few. For example, world-wide spending on public health is just 25% of what is set as a minimum requirement (World Development Report 1997). This provision gap is all the more acute in poor regions and poor countries.

Although the provision of public goods and services by very poor countries is too little relative to their needs, such countries continue to face chronic problems over financing their recurrent expenditure, given their extremely weak ability to raise public revenues. This implies negative public savings (see Table 7), which, combined with low savings levels by the private sector, is reflected in the low overall savings levels reported in Table 1.

Table 7: Central Government Revenues and Expenditures – Selected Low-Income Countries

Year 1997   % GDP

	Total Current revenue (A)	Current expenditure (B)	Government savings (C) = (A)-(B)	Capital expenditure (D)	Overall surplus/deficit (+) (-) (E)=(C)-(D)
Burundi	13.7	17.3	-3.6	3.7	- 7.3
Cameroon	13.0	11.4	1.6	1.1	0.5
Ethiopia	17.1	18.1	-1.0	7.1	-8.1
Kenya	27.1	25.6	1.5	3.4	- 1.9
Myanmar	6.9	4.7	2.2	5.4	- 3.2
Pakistan	16.0	19.9	-3.9	2.8	- 6.7
Sierra Leone	10.5	13.4	-2.9	4.3	- 7.2
Zambia	18.6	14.3	4.3	7.1	- 2.8

Source: Author's elaboration based on data information from the World Development Report 1999/2000.

From Table 1 it can also be observed that in low-income countries investment levels did not pick up during the 1990s despite the resumption of capital flows, indicating that a portion of such flows was used to finance recurrent expenditure. Savings even slightly declined reinforcing this hypothesis. The low investment and savings rates in Sub-Saharan Africa – around 17% and in some years down to 14% (see Table 1) suggest that this might indeed have been the case, with external resources being directed to fill in budgetary gaps rather than to support investment projects.

In order to finance additional recurrent expenditure, the generally recommended measure is to raise private savings (which can then be taxed or borrowed) or increase consumption-based tax revenues. This may be feasible for middle-income countries in Latin America, and could even contribute to the objective of income redistribution. But for the majority of Sub-Saharan countries, which are extremely poor, there is no room to reduce private consumption. Therefore, recurrent expenditure should be financed with supplementary external resources.

The HIPC initiative can be seen as a mechanism towards increasing external finance to the highly indebted poor countries. However, as currently designed it can provide only little financing relief to the beneficiary countries. The initiative is aimed at bringing external debt to 'sustainable levels', but our projections for Sub-Saharan Africa region (which includes most of the eligible countries) show that even if all the external debt of Sub-Saharan countries were wiped out, this would imply, according to the *base scenario*, a reduction of only 22% of the region's total net external financing needs in 2000, or less than 9% under the *poverty-reduction target scenario*. However, although the macro impact is not substantial, still the initiative is potentially

very important. This is because debt servicing being (almost all) public and therefore part of the government budget, if reduced or eliminated would probably release resources for recurrent expenditure in the social sector.

Given the potential benefits that recurrent expenditure can bring to poverty alleviation, in the absence of additional external finance it might be preferable to pursue moderate rather than intensive growth, as our projections suggest that the latter would require extremely high levels of external finance. This could free external resources for recurrent expenditure. From the savings-investment gap perspective, this means lower investment and savings levels, keeping the gap roughly constant (Appendix 3 extends the savings gap model in order to make explicit its fiscal dimension).

6. Concluding Remarks

This study shows that the external financing needs of developing countries far exceed the amounts of development financing flowing from the North to the South. In particular, it makes evident that the goal of halving poverty by 2015 purely through economic growth is virtually unattainable. Thus, a development strategy that combines growth with redistribution of income is called for. Within such a strategy recurrent expenditure should play a key role. However, this may also need additional financing, as it is uncertain whether the resources freed by less intensive growth would be sufficient. Therefore, alternative solutions should be sought in order to increase the availability of external finance. This can be pursued for example by making the enhanced form of the HIPC initiative effective.

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Appendix 1. List of Countries (by Region and Income Group)

(L) and (M) stand for low-income and middle-income countries, respectively. The classification by regions and country income groups draw on Global Development Finance 1999.

East Asia & Pacific
- *Cambodia (L)*
- *China (M)*
- *Indonesia (M)*
- *Korea, Rep. (M)*
- *Malaysia (M)*
- *Papua New Guinea (M)*
- *Philippines (M)*
- *Thailand (M)*

South Asia
- *Bangladesh (L)*
- *India (L)*
- *Nepal (L)*
- *Pakistan (L)*
- *Sri Lanka (M)*

Middle East & North Africa
- *Algeria (M)*
- *Egypt, Arab Rep. (M)*
- *Jordan (M)*
- *Morocco (M)*
- *Syrian Arab Republic (M)*
- *Tunisia (M)*
- *Yemen, Rep.* (M)

Sub-Saharan Africa
- *Angola (L)*
- *Benin (L)*
- *Botswana (M)*
- *Burkina Faso (L)*
- *Burundi (L)*
- *Cameron (L)*
- *Cape Verde (M)*
- *Central African Republic (L)*
- *Comoros (L)*
- *Congo, Dem. Rep. (L)*
- *Congo, Rep. (L)*
- *Cote d'Ivoire (L)*
- *Equatorial Guinea (M)*
- *Ethiopia (L)*
- *Gabon (L)*
- *Gambia (L)*
- *Ghana (L)*
- *Guinea (L)*
- *Guinea-Bissau (L)*
- *Kenya (L)*
- *Lesotho (L)*
- *Madagascar (L)*
- *Malawi (L)*
- *Mali (L)*
- *Mauritania (L)*
- *Mauritius (M)*
- *Mozambique (L)*
- *Namibia (M)*

Niger (L)
Rwanda (L)
Sao Tome and Principe (L)
Senegal (L)
Seychelles (M)
South Africa (M)
Swaziland (M)
Togo (L)
Uganda (L)
Zambia (L)
Zimbabwe (L)

Europe & Central Asia
- *Armenia (L)*
- *Belarus (M)*
- *Bulgaria (M)*
- *Czech Republic (M)*
- *Estonia (M)*
- *Georgia (M)*
- *Hungary (M)*
- *Kyrgyz Republic (L)*
- *Latvia (M)*
- *Lithuania (M)*
- *Moldova (L)*
- *Poland (M)*
- *Romania (M)*
- *Russian Federation (M)*
- *Slovak Republic (M)*
- *Turkey (M)*
- *Ukraine (M)*

Latin America & The Caribbean
- *Argentina (M)*
- *Belize (M)*
- *Bolivia (M)*
- *Brazil (M)*
- *Chile (M)*
- *Colombia (M)*
- *Costa Rica (M)*
- *Dominica (M)*
- *Dominican Republic (M)*
- *Ecuador (M)*
- *El Salvador (M)*
- *Guatemala (M)*
- *Haiti (L)*
- *Honduras (L)*
- *Jamaica (M)*
- *Mexico (M)*
- *Paraguay (M)*
- *Peru (M)*
- *Trinidad and Tobago (M)*
- *Uruguay (M)*
- *Venezuela (M)*

Appendix 2. The savings gap model and data sources

In order to estimate the net external financing needs of developing countries for 2000-2009 and 2000-2015, we use a savings gap model which draws on Lensink and Van Bergeijk (1991), and to a lesser extent, Selowsky and Van der Tak (1986). The model starts with a Harrod-Domar production function in which the investment rate required to meet a pre-determined growth rate is given by the incremental capital-output ratio.

$$i = y_t ICOR \qquad\qquad (2.1)$$

Where

ICOR = incremental capital-output ratio

i = investment rate

y_t = GDP growth

In the simulations we work with two scenarios, the first predicting growth rates drawn from current forecasts (base scenario) and the second based on the growth rates that it is believed would to be necessary to halve extreme poverty by 2015 in each developing region of the world.

ICOR is the weighted average ratio of observed i and y of samples of countries (in each group of countries and each region) over the 1993-97 period for which such information is available (see list of countries in Appendix 1). Years of deep recession that tend to artificially inflate ICOR are left out.

Given growth and ICOR, we obtain the required level of investment. To the extent that growth and investment are kept constant throughout the years for which the simulations are run, the usual procedure of calculating ICOR based on current growth over lagged investment rate is observed. Investment can be financed from domestic and external resources. Regional domestic savings are obtained from weighted averages of savings rates over 1993-97 from countries for which information was available. Savings minus investment rates correspond to the savings gap. But if we consider national savings instead, which are domestic savings minus interest payments on external debt plus current transfers, then investment minus national savings will roughly correspond to the countries' current account balance, CA. In addition, by assuming that international reserves are held constant over time, then CA equals net external financing needs. If to that we further add profit remittances, we have:

$$NEF_t = (i - s)Y_t + PR_t + raD_t - UT_t \qquad\qquad (2.2)$$

Where

NEF = Net external financing needs.

Y_t = country's real GDP.

PR = profit remittances on foreign direct investment (FDI).

D_t = net external debt (gross external debt minus international reserves).

UT = unilateral transfer.

s= domestic savings rate

r = real interest rates.

a = parameter that indicates the proportion of non-concessional debt to total debt.

Net external debt is in turn determined as follows:

$$Dt = D_{t-1} + bNEF_{t-1} \tag{2.3}$$

Where b is 1 minus the ratio of foreign direct investment (FDI) to total external financing.

The two scenarios we work with are: the ***base scenario*** and ***poverty-reduction target scenario***. In both scenarios:

- Y (base year) corresponds to GDP U$ 1998 values multiplied by 1999 growth rate forecast.

- All figures are in US$ 1998 prices. Inflation is ignored.

- a, the proportion of non-concessional debt to total debt, is set constant, according to the ratio of non-concessional debt to total debt stock in 1998. All non-concessional loans are assumed to bear market-based interest rates, whereas concessional loans bear no interest rates.

- b, the ratio of FDI to total net external financing, is set constant at 50% for all country groups and developing regions.

- PR in the base year corresponds to the ratio of profit remittance in 1998 to GDP 1998 multiplied by Y_t.

- UT is proxied by workers' remittances. It is calculated by taking the ratio of workers' remittances in 1998 to GDP 1998 multiplied by Y_t.

Growth rates for low-income and middle-income countries are 5.0% in 2000, 5.3% in 2001 and 5.5% between 2001 and 2009. Growth rates for developing regions vary according to the scenarios, and are displayed in Table 6 (see main text).

Real interest rates are set constant at 4%. Other 1998 values and parameters used in the simulations are displayed in Table 2.1.

Table 2.1. Values and parameters used in the simulations

	Y (base year) U$ billion 1998 values	ICOR	S	D (base year) U$ billion 1998 values	PR (base year) % GDP	A	UT (base year) % GDP
EA&P	1803407.1	4.46	0.37	419029.5	0.7	0.88	0.38
SA	597908.6	3.92	0.19	133412.8	0.058	0.51	2.38
ME&NA	592540.3	6.96	0.18	125083.5	0.26	0.71	2.14
SSA	342211.6	5.96	0.18	210933.7	1.26	0.61	0.99
E&CA	1013030.0	8.06	0.23	329523.8	0.18	0.89	0.63
LA&C	20280359.0	4.67	0.20	566117.5	0.76	0.92	0.53
LIC	857941.6	4.06	0.18	360404.2	0.22	0.55	2.1
MIC	5535967.9	5.30	0.27	1432381.2	0.62	0.89	0.67

EA&P: East Asia & Pacific; SA: South Asia; ME&NA: Middle East & North Africa; SSA: Sub-Saharan Africa; E&CA: Europe and Central Asia; LA&C: Latin America and The Caribbean; LIC: Low-income countries; MIC: Middle-income countries.

As mentioned in the text, in the ***poverty-reduction target scenario***, ICOR falls by 30% from the 6th year on, given the expected gains in capital efficiency after a few years of sustained growth. This applies to all regions, except South Asia. For Sub-Saharan Africa and Latin America & The Caribbean, it applies from the first year (that is, for these two regions ICOR falls from 5.96 to 4.17 and from 4.67 to 3.27, respectively). In addition, for these latter two regions savings rates are adjusted upwards. In the case of Sub-Saharan Africa, they initially move from 0.18 to 0.20

point of the GDP, and from the sixth year on, from 0.20 to 0.25. In the case of Latin America & The Caribbean, they initially move from 0.20 to 0.25 points of the GDP, and from the sixth year on, from 0.25 to 0.30. This upward adjustment is justified by the fact that savings are expected to pick up as investment increases to support higher growth.

Data sources:

Y (base year): World Development Indicators 2000 (p. 188) and Global Development Finance – Summary Tables 2000 (p. 11).

Y growth rate: Global Development Finance: Analysis and Summary Tables 2000 (p. 11 – *base scenario*); DFID (1999), table 1, p. 16.

s: World Development Indicators CD-Rom 2000.

D and PR: Global Development Finance: Country Tables 1999 (pp. 18-46).

Appendix 3. Incorporating the fiscal dimension into the savings gap model

This appendix extends the savings gap model presented in Appendix 2 in order to make explicit the fiscal dimension of the model. This is accomplished as follows.

Playing with the national and current account identities, equation 2.2 displayed in Appendix 1 can be slightly modified:

$$NEF = (i\text{-}sp)Y_t + (g\text{-}tx)Y_t + PR_t + raD_t - UT_t \tag{3.1}$$

Where

sp = private savings rate.

g = government current expenditure rate.

tx = government taxes rate.

$(g\text{-}tx)Y_t$ is the government domestic savings. $[(sp)Y_t + (tx\text{-}g)Y_t]$ is the total domestic savings, and, if we subtract PR_t and raD_t, and add UT, we have total national savings. If we subtract all that from i, then we have the savings gap. With equation 3.1 simulations can be run very easily, as there is information available for all the variables.

If we start with a growth target, we then set i through ICOR. We can obtain initial values for sp and tx and hold them constant (they can be modified with time, of course). Finally, we can play with g. The higher g is set, the lower domestic savings will be and the higher external financing needs will be. Supposing that recurrent

expenditure is contained by g, we can for example split g and set a fixed proportion between recurrent and total current expenditures.

It should be noted that the section 5 of the paper discusses the role of recurrent expenditure in effectively contributing to the objective of poverty alleviation. This implies fiscal needs, which might suggest the appropriateness of the three-gap model. However, the three-gap model is aimed at addressing the link between public investment and growth rather than recurrent expenditure (i.e. public consumption) and poverty alleviation.