Rethinking debt sustainability in the context of the Millennium Development Goals

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Introduction

The *2005 World Summit Outcome* (United Nations, General Assembly 2005b, pp. 7-8) noted that debt relief can be an important source of capital for development. Since debt relief for developing countries is currently determined by assessments of what is considered a sustainable external debt burden, it underlined the importance of debt sustainability to the efforts to achieve national development goals, including the Millennium Development Goals (MDGs). It also called for the preparation and implementation in 2006 of national development strategies (NDS) to achieve the internationally agreed development goals and objectives, including the Millennium Development Goals (*ibid.*, p. 4). To be successful a country's NDS must be compatible with debt sustainability. Secretary General Kofi Annan in his *Report In larger freedom* (United Nations, General Assembly 2005a, p. 18) had already proposed a new definition of debt sustainability as "the level of debt that allows a country to achieve the Millennium Development Goals and reach 2015 without an increase in debt ratios".

To provide support for developing countries seeking to formulate their national development goals, including the MDGs, it has to be demonstrated that this new definition is feasible, and can be made operational. One obvious solution would be to provide grant financ-

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ing for all MDG-related expenditures. But for countries with substantial outstanding debt burdens even this might not be sufficient in the absence of appropriate performance of growth in national income, in government fiscal revenues and/or exports. Since this is unlikely to be the case for most Heavily Indebted Poor Countries (HIPC) and other highly indebted countries, the Secretary General's *Report* further suggests that ensuring the new proposed definition of debt sustainability will not only "require exclusively grant-based finance" but also "100 per cent debt cancellation" (*ibid.*, p. 18).

While the task facing developing countries would be facilitated by providing a "clean slate" through full debt relief to all low and medium income countries and providing 100% grant financing in support of their NDS, the experience in moving toward the UN goal of development assistance of 0.7% of developed country GNI suggests that the amount of grant financing required is likely to fall short of requirements. The technical difficulties that arose in reaching agreement on the Multilateral Debt Relief Initiative (MDRI) for completion of debt relief for HIPC countries suggest that the level of relief required to provide the necessary support for full grant financing is not likely to be achieved in time to contribute to realization of the MDGs by 2015.

This means that countries will have to formulate their NDS on the basis of positive levels of outstanding debt and many may require additional external borrowing to fund MDG expenditures, thereby raising debt ratios above thresholds that are currently considered sustainable by the World Bank and IMF. Preserving 'debt sustainability' as currently defined by the IFIs (International Financial Institutions) would then mean sacrificing the active pursuit of the MDGs. Given the unlikely availability of sufficient grant financing and full and complete debt relief, the challenge presented by the Secretary General's proposed new definition is to find an alternative approach to debt sustainability that is compatible with alternative means of financing the Millennium Development Goals.

In the 2005 *Summit Outcome* all developing countries pledged to formulate NDS in 2006; yet some countries and regions are closer to meeting the MDGs than others. Thus, while the Secretary General's definition may be seen to apply to all countries, some of the more advanced developing countries will find it easier to finance their MDG expenditures from domestic savings and thus find it easier to

manage their external borrowing. The greatest attention must thus be paid to those LDCs (Least Developed Countries) and middle income countries that still face unsustainable debt burdens and thus difficulty in financing their expenditures for MDGs.

This note reviews the existing approach to debt sustainability and suggests an alternative. It suggests that debt sustainability should be defined relative to the development goals to be achieved. An alternative approach to debt sustainability should reflect the change in the primary development goal from growth in per capita incomes of the first four UN Development Decades to the specification of a range of measurable, time-bound development results reflected in the MDGs.

It also notes that the existing approach to debt sustainability is based on meeting performance benchmarks consistently over time, and has been developed independently of the longer-term time horizon appropriate to measuring the success in achieving both the traditional development goal of substantially raising per capita incomes and the development results of the MDGs. An alternative approach must thus fully support the long-term process of economic change required by the development process. Such a new approach to debt sustainability must first recognize the difference in the financing requirements implied by the selection of the MDGs as the primary development goal and that debt sustainability must be viewed as support for a process occurring over time.

1. Development targets and external assistance

From the first UN Development Decade the goal of development policy has been the growth of aggregate income sufficient to provide increasing per capita incomes. A target rate of GDP growth, in excess of expected population growth, served as the basis for the calculation of the external financial assistance required by developing countries. Two alternative approaches were used to determine the financing required to meet the growth targets. In the first the 'gap' between the foreign exchange earnings of developing countries and the cost of capital imports required to reach the target growth rate was to be filled by external assistance, by increasing net exports, or by a com-

bination of both.[1] This approach assumed that the level of aggregate domestic demand necessary to achieve the target growth rate would exceed domestic productive capacity. It also suggested that external assistance and increased net exports might be substitutes. Expanding the export potential of developing countries and the provision of better market access to developed country markets could eliminate the need for external assistance.

A second approach determines external assistance from the difference between domestic savings and the investment required to achieve the target rate of growth as determined by the capital-output ratio. If the rate of growth, g, that results from the savings ratio divided by the capital output ratio [$g = s/v$][2] is less than the target rate, then there must be a net inflow of capital from outside the country to supplement the deficient domestic savings.[3] This approach presumed that the investment required to meet the target growth rate exceeds domestic savings.

This approach suggested that, if the incremental (marginal) propensity to save was sufficiently above the average propensity to save out of existing income, sustained growth attained with the help of net foreign savings could eventually elevate income to levels that generated a sufficient level of domestic savings to make external resources unnecessary. The speed at which this occurred would depend on the marginal savings propensity, but also on the incremental capital-output ratio that determines the amount of new investment required to produce sustained rates of income growth. A reduction in

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[1] This so-called 'gap' approach to public international financing was used in the United Nations (1964). The 'gap' for developing countries as a group was projected to increase from $ 4.9 billion dollars in 1960 to $ 20 billion in 1970. The 1960 gap of $ 4.9 billion was filled mainly by capital imports; since less than half the estimated gap for 1970 was expected to be filled by increased capital imports, a substantial increase in exports would have been required in order for GNP to increase at the First Development Decade growth target of 5%.

[2] This is the familiar Harrod-Domar growth equation. According to the Oral History interview with Hans Singer, the 5% growth target for the First UN Development Decade "was a simple back of the envelope calculation based on the Harrod-Domar formula [...] assuming a capital output ratio of 3 to 1" (see Toye and Toye 2004, p. 179).

[3] Paul G. Hoffman, the first Director of the United Nations Special Fund, used this approach to estimate that an increase in per capita growth for the less developed countries from 1% per annum in the 1950s to 2% in the 1960s would require an increase in the annual inflow of external capital from approximately $ 4 billion a year to about $ 7 billion a year.

the capital-output ratio produced by increased technological efficiency and rising labour productivity would allow internally-financed growth to be achieved more rapidly. However, other factors, such as a scarcity of resources and the high proportion of economic and social overhead investment with relatively low initial rates of return required in the early stages of the country's development might increase the incremental capital-output ratio and increase the need for external financing.[4]

It is interesting that neither approach is capable of determining the precise volume of external assistance required for achieving growth targets, or providing justification for external assistance to reach those targets. As noted, in the 'gap' approach the amount of external assistance required would be sharply reduced, perhaps even to zero, if the volume and prices of developing country exports increased sufficiently to support a process of domestic industrialisation.[5] On the other hand, in the savings gap approach the amount of external assistance required would be sharply reduced, perhaps to zero, by domestic measures to increase average and incremental savings rates and to decrease incremental capital-output ratios. This ambiguity in assessing the appropriate level of assistance is linked to the period of time required for changes in the international trading system to increase export earnings or higher income levels to increase savings. Imprecision in calculating the long-term financing needs obviously makes precision in the calculation of sustainable debt levels difficult.

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[4] The similarity between the two approaches to external assistance is clear from standard national income and balance of payments accounting. Since $Y = C + I + G + (X - M)$ and $S = Y - (C + T)$, we can write $Y = Y - T - S + I + G + X - M$ which, by rearranging terms, becomes $S + T + M = I + G + X$ or $(X - M) = (S - I) + (T - G)$. If there is a 'gap' between exports and required imports ($X < M$) to achieve balance, then either domestic private savings fall short of required private investment ($S < I$) or public sector net savings are negative ($T < G$) or both. The first, 'gap', approach looks only at the deficiency of exports to pay for required imports $X < M$, which implies that domestic savings are deficient to finance required investment: $S < I$ (which is reinforced if $T < G$) or vice versa. Thus external resource flows $CF = (X - M) = [(S - I) + (T - G)]$ must be present to ensure balance.

[5] The first UNCTAD Conference in 1964 gave priority to increasing the external resources available to developing countries through broader market access and higher prices for their primary products to be established by a variety of market controls and removal of taxes on products imported from the developing countries. It was proposed that external markets for manufactures of developing countries be covered by favourable preferential arrangements.

The impact of the change in emphasis to the MDGs as the initial objective of development can be seen in this general framework by recognizing that the high levels of social infrastructure expenditures required to achieve the MDGs may be represented as the equivalent of raising the capital output ratio over an initial period of the development process or as reducing the potential increase in the rate of growth of private domestic incomes, thus extending the period of time over which an economy can reduce its dependence on external financing.

The traditional analysis of debt sustainability works at cross purposes to the analysis of the external financing required to meet the Millennium development objectives. This approach calculates the reduction in resources required to meet debt service, while the MDG approach requires the calculation of the external complement to domestic resources required to finance the expenditures to achieve development goals. The emphasis on short-term flexibility and commitment to transfer resources to meet external claims indicates why it may conflict with the pursuit of the long-term MDGs since MDGs expenditures may represent a competing use of resources. Since most developing countries do not have sufficient per capita income to ease the burden of reducing domestic resources to meet debt service, ensuring debt sustainability means sacrificing the expenditures required to meet the MDGs.

2. Debt sustainability problems for developing countries in the post-war period

While attention was focused on the calculation of the external financing required to meet the growth targets of the Development Decades, little attention was given to the type of financing or to the problem of meeting the debt servicing on those flows. This is perhaps not surprising, given the post-war emphasis on European reconstruction and the important role of the Marshall Plan in its financing. Thus, although the size of postwar capital flows was much larger than in the 1920s, the share of grants and official lending was much higher. Even official lending was in many cases repayable in domestic currency.

However, by the mid-1950s countries in Latin America started to experience problems in meeting debt service and in May 1956 Argentina became the first country to receive relief from what was to become the Paris Club.[6] Borrowing by the Latin American region had increased most rapidly in absolute terms over the 1950s, and its debt service had increased even more rapidly as countries tried to clear arrears on pre-war defaults, shorter-term loans contracted after the war reached maturity creating bunching, and more refinancing was done at market interest rates that rose rapidly over the decade. This growing concern over the ability of developing countries to meet debt service commitments was a major factor in the organization of the International Development Association (IDA), created in September 1960 as a soft loan affiliate of the IBRD (International Bank for Reconstruction and development), while concerns over the particular problems faced by Latin America led the US government to propose global action that produced the first UN Development Decade, and to create the Alliance for Progress to stimulate private capital flows to the region.

3. The origins and evolution of debt stability analysis

It was primarily as a result of the debt servicing problems in Latin America that attention was given to debt sustainability by the research staff of the IBRD. The analysis was based on the identification of the conditions that should be fulfilled if foreign debt service payments (interest, dividends, or principal) were to be met from the resources available to the borrower at any point in time. This required specification of the sources and uses balance, with debt service explicitly singled out as a priority use competing for available re-

[6] It is likely that Argentine experience coloured the World Bank's approach for a large external surplus and foreign exchange position was rapidly depleted by the Peron government, in part due to expansionary domestic policies, and in part due to the use of reserves to pay indemnization to foreign owners of nationalized industries. However, it is also important to note that Argentina experienced a loss of export markets to the US, in part due to the fact that reconstructing European countries could not use Marshall Plan funds to buy goods that had previously been supplied more cheaply by Argentina if they were in excess supply in US markets. See Rapoport y colaboradores (2003, pp. 422-25).

sources. Debt sustainability was simply defined as resources exceeding uses over time by more than the amount of debt service.[7]

In addition to the question of sufficient real domestic resources to meet debt service, it was also recognized that total foreign exchange receipts, including those resulting from gross capital inflows, must exceed imports of goods and services by the volume of debt service payments.[8] This is the second, or foreign exchange, 'gap'. Implicit in the World Bank analysis was the (usually unwarranted) assumption that since the borrower was usually (or eventually) a developing country government, rather than the private sector, a government surplus was sufficient to offset any deficiency in the private sector.[9]

One of the first formal analyses of debt sustainability stated:

> "The fulfillment of debt service obligations is thus dependent on the economy's capacity to adjust the claims on total resources, savings, and foreign exchange in any given year and over time so as to release the amount required for debt service".[10]

The analysis goes on to note that if an automatic international adjustment mechanism, such as the gold standard was believed to be, is effective, domestic absorption would automatically be adjusted to produce the required resource outflow to meet foreign claims. Debt sustainability difficulties could only arise if governments were unwilling to implement policies to replicate the effective operation of such an adjustment mechanism.[11] It was suggested that this might occur because of a "con-

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[7] Thus the excess of sources GDP + M + CF less uses C + I + X must be equal or greater than debt service DS. (Y + M + CF) – (C + I + X) = DS.

[8] Or NX + CF ≥ DS

[9] NX + CF = [(S-I) + (T – G) + CF] ≥ DS. Accounting may not be this simple when state-owned enterprises borrow abroad and provide government fiscal resources as was (and still is) the case in many developing countries in the 1980s, particularly those with state-owned oil and mineral enterprises.

[10] See Alter (1961 pp. 140). Alter was on the economic staff of the bank and appears to have started analysis of the problem.

[11] It is interesting to note the similarity with the concept of net transfer of resources as the difference between net financial flows and the net factor service payments on those flows. Net transfer is represented by the non-residents' claims on interest, profits and dividends that are not covered by net capital inflows. Writing *DS* for the balance on net factor services in the current account and now writing *CF* for the net balance on capital account including factor services, the current account CA = (NX) – DS. If CA – CF = 0; –CF = [(NX) – DS] or NX = –(CF – DS), which gives Y = C + I + (CF – DS) or Y – (CF – DS) = C + I. Thus when DS > CF Y < C + I. The

flict with the objectives of relatively full employment, accelerated economic development, more equitable income distribution, and so forth" (*ibid.*, p. 141). In this view the question of debt sustainability does not concern the availability of resources to meet foreign claims, but

> "how can we appraise the capacity of the country to reconcile the competing claims on total resources, savings, and foreign exchange resources?" (*ibid.*, p. 146).

That is, the willingness and ability of governments to sacrifice domestic objectives to meet foreign claims.[12] A subsequent study of the problem (Avramovich 1958, p. 130) affirms Alter's view (1961, p. 146) that

> "A minimum condition for developing even a small sustainable margin for debt service over the long term would appear to be some [rate of] increase in per capita income"

because this would provide a margin for a downward adjustment of domestic absorption without having to bring about an absolute decline in domestic real income levels.[13] The continuity in the World Bank's approach to debt sustainability from these early studies in the 1950s to the present day can be seen by the fact that sustainability is still defined

> "as a situation in which a borrower is expected to be able to continue servicing its debts without an unrealistically large future correction to the balance of income and expenditure".[14]

This approach, developed in the context of Latin American debt problems, was less appropriate when the poorest developing coun-

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positive net transfer of resources represents the external assistance that is available to the recipient country to meet its domestic development objectives, while a negative transfer of resources reduces domestic incomes.

[12] There is also similarity between the approach to debt sustainability and balance of payments adjustment policies employed by the International Monetary Fund. Here the question is how domestic use of resources can be reduced to match domestic sources, on the presumption that domestic absorption is excessive to domestic capacity. Temporary IMF lending must then be recovered in exactly the same way through releasing domestic resources as used to meet any other foreign claim. It should not be surprising that the conditionality imposed on countries to insure debt sustainability is very similar to that imposed to restore balance of payments equilibrium.

[13] See Avramovic (1958).

[14] See International Monetary Fund (2002, p. 4).

tries encountered debt difficulties in the 1990s. Since their debt service was being met primarily from official aid flows, the decline in these flows in the early 1990s created debt servicing difficulties that could not be met by transferring internal resources since their low level of development meant they had fewer resources to transfer and thus much less flexibility, independently of government willingness. The result was the HIPC initiative to reduce external debt to sustainable levels. It thus required estimates of the amount of debt reduction that would produce sustainability.

Not surprisingly, the same ratios that had been identified in the 1960s and 1980s were used, with the addition of estimates of minimum threshold values of the ratios that were considered to give a sufficient cushion of flexibility to adjust domestic resource use to the levels compatible with meeting foreign claims. Despite the difference in the availability of internal resources, these studies estimated sustainable values for these poor countries using the ratios reached at the time of the first rescheduling of debt in Latin America as a benchmark, adjusting for expected performance of other sources and uses.[15]

From its inception, this approach to debt sustainability has emphasized the importance, in the absence of a binding automatic external adjustment mechanism such as the gold standard was believed to have produced, of the ability and the commitment of government to ensure that foreign claims are honoured before domestic claims.[16]

4. Traditional debt sustainability and the MDGs

As noted above, there is a conflict between the traditional approach to debt sustainability and the alternative approach that would be required in the context of the MDGs. This latter approach might best be viewed as a long-term approach to debt servicing that is compatible

[15] These calculations were primarily the result of work in the World Bank done by Underwood (1990) and Cohen (1996).

[16] This factor is now explicitly present in the recent reassessments of the sustainability thresholds proposed in the operational framework for debt sustainability assessments to include components measuring government strength and efficiency as estimated by an *ad hoc* measure of such commitment, the World Bank Country Policy and Institutional Assessment. See International Monetary Fund and International Development Association (2005).

with the long-term development objective of achieving the MDGs. Since debt sustainability has only been approached from the short term, independently of long-term objectives, it has remained an examination of the short-term flexibility of the various domestic claims on resources and the claims of foreign creditors. The real question at issue is whether the long-term objectives should be sacrificed to the short-term objective of meeting debt service or if more flexibility should be introduced into servicing ability without sacrificing the long-term objective of meeting the MDGs.

5. Combining development targets financed with external resources and debt sustainability analysis

The problem is then to determine a long-term approach to the problem of debt sustainability compatible with the long-term financing needs of the MDGs. The first step in this process is to correct the estimates of the amount of external assistance required to meet a specific development goal for the service on the accumulating debt. Thus external resource flows required, specified above as CF = (X – M) = (S – I), would have to be augmented by DS = (iD + aD), where *i* and *a* represent the interest rate and amortization rates on the outstanding debt, *D*.

Such an analysis has already been provided by Evsey Domar (1950) in his assessment of whether the US might use a permanent trade surplus to provide support for domestic demand sufficient to provide full employment in the post-war period. Several critics had noted that a positive trade balance would have to be balanced by foreign lending that would create positive factor service earnings that might eventually crowd out the positive trade balance. Domar pointed out that, if the rate of increase in foreign lending is equal to the interest-rate received from foreign borrowers on outstanding loans, net goods and services exports would be a constant share of national income and thus provide a constant supplement of aggregate demand to national income.

Although an ever increasing amount of foreign lending as a substitute for domestic demand expansion was perhaps optimistic in a period dominated by what was expected to be a permanent 'dollar shortage' and post-war US resistance to further lending abroad, it did

reflect the basic premise behind the development targets as well as what is still considered

> "Basic economic logic [...] that in the longer term, the industrial countries as a group should be running current account surpluses and lending on net to the developing world".[17]

Thus, in providing the conditions under which such lending is sustainable for developed country creditors, Domar implicitly provided the conditions for the sustainability of external borrowing by developing countries. Formally, developing countries would be able to meet their debt service commitments as long as they increase external borrowing at a rate that is equal or greater than the rate of interest on their accumulated debt stock – the inflow of new net borrowing would cover the interest payments on the existing stock of debt. However, paradoxically, if the foreign funds are used to development domestic export capacity, this relation breaks down, as does the stability of the model based on external finance. This is further discussed below.[18]

This approach concentrates on two policy variables – the effective rate of interest on external funding and the rate of increase in developed country current account surpluses and its direction to and distribution across developing countries. It implicitly ignores the impact on trade, which is potentially the most important variable to influence.

The first variable can be influenced by the composition and maturity structure of external assistance flows as between grants, concessional lending, guaranteed lending and market lending.[19] The size of overall flows and its direction to developing countries is more difficult because it involves a range of public and private decisions as well as the coordination of national policies. For example, it has long been the case that the majority of direct investment flows are between developed countries, and that those that do go to developing countries are highly concentrated in a small number of already successful, high growth economies and tend to follow boom-bust cycles.

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[17] Bernanke (2005).

[18] Ragnar Nurkse (1953, pp. 132-33) was the only development economist who noted the importance of Domar's analysis for the discussion of the impact of foreign capital flows.

[19] It is possible that the required rate of interest might be negative to ensure stability.

In much the same way official flows tend to be highly concentrated and appear to be as volatile as private flows.[20] Thus, there can be no guarantee that the external assistance flows that are required for a particular target rate of growth are of the size appropriate to achieve it. If they are excessive, then they will create debt difficulties. From the national point of view, this means that managing external inflows to ensure that they do not exceed development needs is an integral part of ensuring debt sustainability.

Since international commercial imbalances and capital flows are the result of the interdependent, yet individual, decisions by many economic actors and the result of often contradictory national policies, some sort of international coordinating mechanism will be required to resolve possible conflicts between the desired foreign lending of developed country investors and the financing needs of developing countries. In the immediate post-war period the newly created World Bank was to influence the size and composition of external flows to developing countries, while the IMF was to ensure overall coherence in current account balances. A UN expert group has made proposals to reinforce this coordination function through an amendment of the Articles of the International Bank for Reconstruction and Development that would allow it to borrow directly from developed country governments in order to lend for general development purposes to underdeveloped countries on a sustained, long-term basis. The proposal recommended a procedure whereby developed country lenders committed to long-term targets for their international lending in support of development and borrowers set up capital budgets to distinguish between support for general development purposes and those for specific development projects. The IBRD would charge borrowers interest rates that covered only the borrowing costs incurred by the developed country lender in raising the funds through issue of sovereign bonds, plus administrative costs and a margin to cover default risk.[21] Such a proposal would cover both the question of interest rates and the flow and distribution of external assistance.

However, this would still not be sufficient to ensure sustainability. Even if the appropriate direction, composition, maturity and size of

[20] See UN DESA (2005, pp. 112-16).

[21] See United Nations, Department of Economic Affairs (1949, pp. 55-56).

flows and lending rates could be achieved, Domar's definition of long-term sustainability rests on the assumption of a constant rate of income growth and constant rates of interest over time that certainly will not occur in practice. If interest rates were to be variable over time, then this would require appropriate adjustment in the rate of lending to accommodate. This would require conscious measures by multilateral development institutions to provide compensating flows and interest rate supports to ensure that development targets can be maintained. This would be in sharp difference from the current approach in which fluctuations in aid flows, interest rates and growth rates are met through proposals for the recipient country to reduce its internal use of domestic resources in order to compensate for shortfalls.

But there is an even more important difficulty with this approach. Domar's conditions say nothing about how the borrowed funds are used. If they are not used to fund expenditures that increase national income, the ratio of debt to national income may be continually rising, even though the flow conditions are still being met. Domar's result required that the use of the funds produce sufficient gains in foreign currency to meet the debt service.[22] It is interesting that the arguments advanced in favour of free, market-determined international flows of capital from developed to developing countries are based on the implicit assumption that foreign borrowing funds investments in productive enterprises and earns a higher differential rate of return adjusted for risk, without recognition of the necessity that the funds generated are in the same currency as the cash commitments on the loans.[23]

Finally, it has been noted[24] that Domar's definition of sustainability is formally equivalent to what Hyman Minsky has called a "Ponzi" financing scheme. Ponzi financing schemes may be successful in the short run, but they are inherently unsustainable in the long run. Clearly, the definition of external debt sustainability requires an

[22] This is presumably the basis of the statement of Walter Wriston that developing countries never go bankrupt, they simply refinance in order to meet debt service.

[23] For example Jacob Viner (1947, p. 98) notes that "The basic argument for international investment of capital is that under normal conditions it results in the movement of capital from countries in which its marginal value productivity is low to countries in which its marginal value productivity is high and that it thus tends toward an equalization of marginal value productivity of capital throughout the world and consequently toward a maximum contribution of the world's capital resources to world production and income".

[24] See Kregel (2004).

additional condition on the side of the borrower that specifies how the external resources are used. This might be achieved by the introduction of capital account budgeting as suggested in the proposal cited above.

This problem can be resolved by specifying what might be called a 'debt sustainable' development scenario.[25] It might be divided into three stages. In the first, the Domar stability condition would be met for say 20 years while the country invests in production and export capacities, and positive net inflows are maintained. This would be followed by a second stage of say 10 years in which the newly created capacity allows exports to grow more rapidly than the overall economy and allows a steady reduction in the rate of net capital inflows. This would be followed by a third stage in which net capital flows reverse and the accumulated stock of external debt is gradually repaid as productivity, net exports and the external surplus rise. After say 50 years the country would become a net foreign lender.

This ideal 'debt sustainable' scenario will face three problems. The first is the first stage when debt ratios may well exceed values associated with short-term sustainability. If borrowing is truncated for this reason, the entire development process is jeopardized.

If the second stage is reached, experience suggests that successful income and export expansion will make the country more attractive to international investors, causing an increase rather than a decrease in the rate of capital inflow. This could be accompanied by an inappropriate appreciation of the exchange rate that may threaten the further development of domestic export capacity. It is at this stage that some management of capital inflows may be required in order to balance the needs of borrowers and lenders.

The third is the fact that private markets in general will not lend for fifty-year terms that such a scenario requires, so that the lending will have to continue to have a large official component, or be intermediated by an international financial institution, lending at concessional terms. This is particularly important in the first stage when debt ratios may far exceed what are considered acceptable short-term limits.

Early studies by the IBRD also recognized the importance of assessing debt servicing capacity over long periods of time, although in

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[25] *Ibid.* (section VI).

practice it gave importance to short-term adjustments in domestic resource use. This approach of viewing debt sustainability over the entire development process was eventually abandoned.[26] This "growth-cum-debt" approach has many points in common with the three stage 'debt sustainable' scenario just sketched out.

In an initial stage savings start from a level too low to finance domestic investment requirements so that the country has to borrow to finance part of its investment and to meet service on the debt accumulated in the process. In the second stage of the process savings have grown sufficiently to finance domestic investment, but are not yet sufficient to meet the entire burden of interest and amortization payments on the accumulated debt, including the payment of foreign currency on the external debt burden. Thus debt continues to grow, but at a slower pace than in the first stage since some of the increasing savings can be used to pay debt service. As the third stage begins, domestic savings are sufficient to finance domestic investment and to meet the interest on accumulated debt. As the country begins to generate a surplus of savings above domestic investment and interest payments, it can start to pay down debt, while maintaining a satisfactory momentum of economic development. The borrower eventually pays back all the interest costs that it has postponed from earlier periods and the "growth-cum-debt" cycle is complete and foreign capital has been repaid after earning interest throughout the period of its employment in the borrowing country.

However, the success of this cycle depends on a sequence of economic adjustments taking place over time. In the initial period of import substitution aid flows are used to support the structural change of the economy through development of new diversified export sectors with rapidly rising and less volatile export earnings that eventually produce the funds required to meet debt service.

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[26] See Avramovic *et. al.* (1964), prepared in response to a request from the OECD/DAC and as an input to the first UNCTAD Conference "Economic Growth and External Debt – An Analytical Framework", vol. V, of the Report of The First Conference on Trade and Development. Vol. 1, chapter V of the book contains numerical simulations of successful "growth-cum-debt" cycles under various assumptions about target income growth rates, savings rates, capital-output ratios, export coefficients, export growth rates and interest rates and borrowing terms. See pp. 60-75 for values that largely reflect Latin American developing economies of the period that covers full cycles of 36 years.

6. Alternative development targets

The key to this approach to debt sustainability is whether or not debt can be repaid over the full development cycle, rather than whether debt service can be met in any particular period of time. Indeed, it is premised on the fact that debt service will not be met over the early periods in which short-term debt ratios will be continuously deteriorating. Its success depends on the provision of financing through these early periods. In addition it requires that the long-term growth of income produces internal savings, that the government can mobilize these increased savings in the form of fiscal revenues and that the increased domestic resources can be transferred through the appropriate adjustment of the external balance. Sustained growth and income is dependent on growth in savings, and the growth in savings is dependent on growth in income. Similarly a sustained growth in income cannot be achieved unless the foreign trade sector of the economy develops fast enough to provide external earnings needed to satisfy growing import requirements and to finance other external outlays. The required rate of export growth will of course vary from country to country depending on its dependence on natural resources. This approach to debt sustainability thus requires the design of a long-term national development strategy that by the end of the process eliminates the necessity for additional borrowing and debt service through increasing per capita incomes and export earnings on a sustained basis.

Adapting this approach to the MDGs requires recognition of the fact that the large social infrastructure expenditures on health, education and environmental protection required to meet them will have high social returns, but low or only distant monetary returns and minimal impact on export capacity. As suggested above, this may be represented in the traditional approach as an increase in capital output ratios. The debt-sustainable scenario for national development strategies would then have to be supplemented by a period in which the necessary infrastructure to provide minimum acceptable requirements of health, education and transportation and energy infrastructure can be completed.

This approach is reflected in the Millennium Project (2005, pp. 7-8) *Report*'s position that

> "achieving the Goals is about making core investments in infrastructure and human capital that enable poor people to join the global economy, while empowering poor people with the economic, political, and social rights that will enable them to make full use of infrastructure and human capital, wherever they choose to live [...]. Infrastructure, human capital, and human rights are vital complements to a healthy private sector. In a market-oriented economy, as long as individuals and businesses have the tools offered by infrastructure and human capital, the private sector can develop rapidly. Private sector-led growth in agriculture, industry, and services will then generate jobs and incomes, which reduce poverty and the future dependency on foreign aid. The goal, then, is to combine the critical public investments in infrastructure and human capital with market-oriented economic policies to ensure the dynamism of private sector growth. As economies grow richer, the private sector can also provide an increasing share of core infrastructure services".

Setting a national development strategy that is based on these prior investments in the MDGs sets the stage for the 'debt sustainable' or 'growth-cum-debt' scenarios in which the external resources required to pay not only the accumulated interest, but also principal on the accumulated debt by the end of the process.

This prior period of investment in an MDG based national development strategy implies that a developing country would start what has been identified above as the first stage with a substantial accumulation of outstanding claims in addition to any already existing outstanding debt. Within the above framework it implies that the initial stage of rising external assistance and increasing debt servicing costs will be much longer and require a larger build up of debt stocks which could produce debt ratios that are substantially above those considered compatible with the short-term official calculations of sustainability.

If debt sustainability is approached on a short-term basis, in the absence of debt relief, maintaining sustainability would then conflict with achieving the MDGs on a timely basis. The point of the long-term approach is to recognize that the deterioration in the debt ratios is a natural part of a long-term 'debt sustainable' scenario and

should not cause a reduction in expenditure but the maintenance of resource flows to support the MDGs. The initial phase of the scenario approach would then require an initial grace period, full grant financing, or the provision of loans that could be repaid in terms of domestic output or domestic currency, or in terms of scaled debt service, starting from very low levels and rising over time.[27]

The important point to stress is that the increase in domestic productivity and domestic resources that are necessary to provide a 'debt sustainable' scenario cannot be achieved without success in this initial phase of investment represented by completion of the MDGs. Thus, sustainability can only result from a long-term process in which a country has completed a "growth-cum-debt" cycle and no longer requires external financing. As already noted, private capital markets are unlikely to be willing to provide support of a maturity that is required for the ideal scenarios set out above. They are even less likely to do so for a scenario that includes an even longer initial commitment of funds dedicated to social infrastructure spending on the MDGs. Thus, the majority of the early financing for the Least Developed Countries will either have to be official, or done through some mechanism that provides interest subsides or guarantees to private lenders.

For most countries there will not be a clear separation between the period of high MDG expenditures and the initial stage of transformation of the productive structure of the economy. Part of a country's national development strategy might then take the form of a multi-year capital account budget that separates MDG investments from other public and private investments. The calculation of the required financing for the MDGs would then produce a debt accumulation profile and an associated profile of servicing costs.[28] A sustainable financing package could then be devised setting out the composition and maturity of the external assistance such that its servicing would be compatible with the country's available resources. This

[27] In addition to Marshall Plan Aid, such loans were common in the immediate post-war period, as were the sale of commodities against local currency (see Mikesell 1966). There have also been numerous proposals for issuing long-term mortgages with substantial backloading of interest and principle to reflect the likelihood of increasing household incomes.

[28] The UN Millennium Development Project provides detailed estimates of the kinds of investments required and their costing.

would still require that variations in external conditions would provide additional funding or a revision in the financing package whenever there is a shortfall in domestic resources. This might happen if the country was subject to an internal shock, such as a drought, or an external shock, such as a fall in a key commodity price. This could be done by the World Bank providing guarantees or allowing repayment in local currency or local outputs. In this way it is the MDGs that take priority, rather than being able to meet a predetermined set of resources outflows.

It is also important to recognize that initial conditions will be important in outlining the appropriate financing strategy. In particular, the level of outstanding debt stocks and its tenor and conditions will be of importance. As noted by the Secretary General, this highlights the importance of including fuller debt relief as part of the financing package to be provided for a successful scenario.

7. Alternative proposals and the new debt sustainability framework

As noted above, the approach proposed here is very similar to that developed in the early work of the IBRD research department on long-term aspects of debt sustainability. While these studies first analysed the short-term aspects of the problem, it was noted that

> "the logical sequence appears to be from the long-run growth problem to the temporary deviations, which occasionally interrupt the trend"[29] because "continuing growth in per capita production and the underlying process of rapid accumulation of productive capital is the basic long-run condition of debt servicing capacity".[30] "It was for this reason that short-term indicators such as debt service ratios were considered to lack any theory that would support them as meaningful indicators of the long-run aspect of debt servicing capacity".[31]

[29] Avramovic *et al.* (1964, p. 9).
[30] *Ibid.* (p. 11).
[31] *Ibid.* (p. 67).

Recently the World Bank and the IMF have formulated a new debt sustainability framework (DSF) that attempts to move away from the traditional tendency to emphasise short-term analysis. The new approach is presented as being "forward looking" because it is used to determine the overall magnitude and composition (between grants and aid) of new borrowing that can be considered as sustainable over a longer run of future periods, rather than determining the amount of existing debt that must be forgiven in order for the debt burden remaining after relief to be considered sustainable. While this new approach forecasts future performance over a series of years based on extrapolation of the assumed behaviour of key internal and external economic performance variables, and applies 'stress testing' to this benchmark to generate a range of probable results, it is clearly not long-term in the sense of the evolution of a development cycle used by the early IBRD studies. The approach continues to be based on the ability of a country to adjust its domestic resource use in order to be able to meet debt service targets on a continuous basis over time, rather than assessing the funding profile required over time necessary to allow a country to meet a particular development goal on a sustainable basis as proposed in this note.

In this sense the new DSF continues to require borrowers to be solvent in every future period. This is equivalent to what Minsky (1982, pp. 22 ff.) called "hedge finance" in his theory of financial fragility. It requires the borrower to be able to adjust its internal and external use of resources to meet its debt servicing costs by a comfortable margin in each and every period. On such conditions there is really very little need to borrow and external financing can do little to increase growth.

On the other hand, the framework proposed in this note and by the early IBRD studies is closer to what Minsky called "speculative finance". The borrower may fall short of being able to meet debt service commitments for one or a series of periods, although by the end of the investment process it will have generated enough income to meet principle and all arrears. This can be expressed in the form of a net present value position being positive over the entire development scenario. This distinction between debt sustainability based on short-term solvency as exemplified by a hedge financing strategy and positive net present value based on a speculative strategy is perhaps a better distinction between the approaches than short and long term.

It is clear that in such a scenario there must be a residual lender willing to finance the period or periods in which resources fall short of financing commitments. If these periods are likely to be extended and to provide little immediate impact on performance, as would be the case for poor countries attempting to meet the MDGs, it is unlikely that private lenders or bilateral donors will provide the required financing profile. A development lender must then be present to meet the periods of structural shortfall in resources required to allow the completion of positive net present value development strategies, as well as to provide funding for short-term fluctuations. But, as noted by the early IBRD studies, it will also require that the capital inflow be used to accomplish structural change of the economy by developing new, rapidly rising and less volatile exports. What the Millennium Project *Report* and the Secretary General's proposed definition of debt sustainability point out is that this process cannot start unless the MDGs are met on a timely basis.

Finally, as noted above, the new debt sustainability approach attempts to incorporate the efficiency and capacity of the government to impose reductions in domestic absorption to meet external debt service. In the approach proposed here the capacity and efficiency of the government is no less important, however, than the ability to formulate, manage and operationalise National Development Strategies aimed at achieving the MDGs. For some countries these challenges will be very great and building the required capacity will have to be an integral part of the investment in human capital embodied in National Development Strategies. This means that the successful completion of a 'debt-sustainable' scenario will take even more time than for other countries and require more sustained external support.

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