



## Center for Full Employment and Price Stability Research Archive

Using Minsky to Analyze the Impact of  
International Development Finance on  
International Financial Stability  
WP 33

Jan Kregel

**Bard**

**Using Minsky to Analyze the  
Impact of International Development  
Finance on International Financial Stability**

by  
J.A. Kregel \*

**Working Paper No. 33**

April 2004

\* High Level Expert in International Finance, United Nations Conference on Trade and Development, New York Office, and Distinguished Research Professor, University of Missouri-Kansas City

# Using Minsky to Analyse the Impact of International Development Finance on International Financial Stability

Jan Kregel

## 1. *External Financing for Development and Net Transfers of Real Resources*

### *The History of Official Support for a Policy of Positive Resource Transfers*

One of the interesting paradoxes of development policy is the widespread acceptance of the necessity of external financing for successful economic development and the historical persistence of net financial flows from developing to developed countries. From the first UN resolutions on financing development<sup>1</sup>, to the creation of the International Finance Corporation in the IBRD, to the UN Special Fund and the UNDP, to the First UN Development Decade, and the Alliance for Progress, up to the recent Monterrey Consensus the thrust of international development policy<sup>2</sup> has continued to stress the importance of high and stable capital flows from developed to developing countries, although the central role in the process has shifted from emphasis on multilateral and bilateral official flows to private flows.

One of the major recommendations of the Committee of Twenty, formed to propose reform of the international monetary system after the breakdown of the dollar peg to gold in 1971, led to the

---

<sup>1</sup> General Assembly Resolution 400 (V) 20 November 1950 considers “that the domestic financial resources of the under-developed countries, together with the international flow of capital for investment, have not been sufficient to assure the desired rate of economic development, and that the accelerated economic development of under-developed countries requires a more effective and sustained mobilization of domestic savings and an expanded and more stable flow of foreign capital investment”.

<sup>2</sup> Although the decision to hold a Conference on Trade and Development in 1964 represented a shift in emphasis from the original stress on financial flows in the First Development Decade as U Thant notes in his introduction to the Report of the Secretary of the Conference, “During the past year ... the idea has gained universal acceptance that the development goals of the United Nations have direct implications for international trade and aid. ... It is vital for the world community to create an international trade environment that would facilitate the growth of developing countries, not thwart it.”, “Preface”, *Proceedings of the United Nations Conference on TRADE AND DEVELOPMENT, Geneva, 23 March–16 June 1964, Volume II, Policy Statements*, New York: United Nations, (E/CONF.46/141, Vol. II, Sales No.: 64. II.B .12Vol II) p. 3. That report did not call for increased flows, but rather mechanisms to improve commodity prices, increase developing country manufactured goods exports, or aid in the form of compensatory finance to offset terms of trade losses.

creation of a Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund on the Transfer of Real Resources to Developing Countries to study and recommend measures on the broad question of the transfer of real resources to developing countries, which the Committee agreed should be given encouragement.

Six months earlier, in response to the implications of the energy crisis the Sixth Special Session of the General Assembly had adopted a Declaration and Programme of Action calling for a New International Economic Order, and in 1977 in a General Assembly Resolution entitled “Finance for Development” (A/32/177) requested the Secretary General of UNCTAD to convene a group of high-level experts to prepare a report on the subject. In the mid-1980s the General Assembly called for a report on the net transfer of resources that eventually led to the Monterrey Conference on Financing for Development.

#### *Academic Support for Positive Resource Transfers*

This emphasis of the net transfer of resources as represented by external capital inflows as essential to the development process was buttressed by early academic work on development planning which looked to the model of the planned economies, derived from Volume II of Marx’s *Capital*, concentrated on investment in heavy industry and the models of economic growth that had been developed on the basis of Keynes’s theory of employment all of which, following Keynes, gave a central role to investment. Since developing countries had scant capacity to produce such investment goods and levels of income insufficient to produce the savings required to finance high rates of investment, the obvious solution seemed to be to replace deficient domestic savings with foreign savings in the form of capital inflows. The importance of external financing was reinforced by the “return to an old-fashioned way of looking at economic development” as requiring a burst of investment spending to produce a “take-off” defined as an ‘industrial revolution’ in Rostow’s theory of stages in development.<sup>3</sup>

---

<sup>3</sup> W.W. Rostow, *The Stages of Economic Growth*, New York: Cambridge University Press, 1960. Subtitled “A Non-Communist Manifesto”, it promised development without central planning.

*The Reality – Predominance of Reverse Resource Transfers*

But, while official policy may have been directed at channeling the funds of developed countries to developing countries to finance their growth, the historical reality has been quite different. Brazilian President Getulio Vargas, in a speech at the end of 1951, complained that Brazil had been experiencing negative net liquid financial flows continuously from 1939 (with 1947 the exception).<sup>4</sup>

An analysis of the net contribution of financial resources to Latin America under the Alliance for Progress concluded that debt service “rose from 6 per cent of the region’s export earnings in 1955 to 18 per cent in 1966. The repayment and interest burden on loans made available by the U.S. government and other donors, added to the already heavy debt burden, could put most of the larger Latin American countries on a debt treadmill, with a large part of the Alliance loans being absorbed in repayment of previous loans.”<sup>5</sup> Another observer noted the amount of aid initially agreed “may prove even more deficient with the continuance of the outflow of U.S. private capital, estimated at \$37 million for the first 9 months of 1962, versus an inflow of \$141 million in 1961, an unfavorable swing already of about \$180 million, and a deficit from the Punta del Este goal, for U.S. direct investment alone, of about one-third for \$1 billion. In addition, the deficiency will become even larger still if the inflow of private capital, other than U.S. direct investment, declines from the 1961 level of \$947 millions, and it appears likely that this has already happened ...”<sup>6</sup>

The Eighteenth session of the General Assembly in 1963 recognised the problem of the outflow of capital and by the Twenty-first session in 1966 expressed concern with “the recent trend towards an increased outflow of capital from developing countries” and requested study of “possible measures to

---

4 Quoted in Aristoteles Moura, *Capitais estrangeiros no Brasil*, Editora Brasiliense, Sao Paulo, 1959, pp. 26-7.

5 Harvey S. Perloff, *Alliance for Progress A Social Revolution in the Making*, Baltimore: Johns Hopkins University Press for Resources for the Future, 1969, p. 58. Perloff estimates the annual net transfer of resources to the region from all sources around \$4 per capita. (Ibid. p. 53.)

6 Excerpts from a letter from J. Peter Grace to General Clay, Chairman of the President’s Committee to Strengthen the Security of the Free World, reprinted in *Private Investment in Latin America*, Hearings before the Sub-Committee on Latin-American Economic Relationships of the Joint Economic Committee, Congress of the US, 88th Congress, Second Session, January 14, 15, 16, 1964, Washington, D.C., US Government Printing Office, 1964, p. 107.

be taken in order limit or decrease the outflow of capital from the developing to the developed countries<sup>7</sup> and also noted “with deep concern the fact that, with few exceptions, the transfer of external resources to the developing countries has not only failed to reach the minimum target of 1 per cent net of individual national income of the developed countries but that the trend since 1961 has been of continuous decline.”<sup>8</sup>

The Report by the Secretary General of the United Nations Conference on Trade and Development in 1964 noted that between 1950 and 1961 “net inflows of foreign capital of all types to [Latin America] reached the figure of \$9,600 million, whereas Latin American remittances abroad amounted to \$13,400 million.”<sup>9</sup> This was not, however, the first experience of reverse financial in the region<sup>10</sup>, nor was it to be the last.

After nearly a decade of the Alliance for Progress which was to promote increased public capital flows to Latin America in order to attract more private financing, ex-Chilean finance minister Gabriel Valdes is reported to have told President Nixon in a June 12, 1969 meeting at the White House that: “It is generally believed that our continent receives real financial aid. The data show the opposite. We can affirm that Latin America is making a contribution to financing the development of the United States and of other industrialized countries. Private investment has meant and does mean for Latin

---

7 General Assembly Resolution 2169 (XXI).

8 General Assembly Resolution 2170 (XXI).

9 “Towards A New Trade Policy for Development: Report by the Secretary of the Conference,” *Proceedings of the United Nations Conference on TRADE AND DEVELOPMENT, Geneva, 23 March–16 June 1964, Volume II, Policy Statements*, New York: United Nations, (E/CONF.46/141, Vol. II, Sales No.: 64. II.B .12) p.13.

<sup>10</sup> To finance the creation of frontier cities, a bank, port improvements and a water supply system Barings loaned £1 million to what eventually became the Argentine Republic but none of the intended investments were executed and the loan went into default by the end of the decade. Although after paying commissions and underwriting costs only £570,000 was received by the borrowers and the majority of this sum was comprised of trade bills held by Barings on British commercial houses located in Buenos Aires. Argentina continued to make payments during the century and by 1904 some £5 million had been remitted. See Mario Cafiero and Javier Llorens, *La Argentina Robada*, Buenos Aires, Ediciones Macchi, 2002, pp. 12-15, who quote Felipe Pigna. The effective real rate of interest on the loan, paid in gold, over the eighty years is around 3 per cent per annum.

External flows returned to Latin American around the middle of the century, only to be followed by the second Barings crisis. The Region went into generalised default after the stock market crash in the US, ushering in another period of sustained negative financial flows.

America that the sums taken out of our continent are several times higher than those that are invested. ... In one word, we know that Latin America gives more than it receives.”<sup>11</sup>

The recycling of petro-currency surpluses to developing countries in the 1970s caused attention to shift from the lack of flows to excessive flows and the build up of unsustainable debt burdens and the role of capital flows in financial crisis as first the Southern Cone financial crisis and then the Mexican default added two new dimensions – debt and financial crisis, to the discussion of the role of external financing and net resource transfer in the development process.

Indeed, it was the reversal of both private and public financial flows<sup>12</sup> and nearly a decade of negative net transfers of real resources though net flows of capital from developing to developed countries in the 1980s that led to the call by the G-77 countries in 1987 for a UN Conference on Financing for Development to ascertain measures that could reverse what was still considered to be an anomalous situation. It was in this context that the concept of the “negative net transfer of real resources” became the basis for discussion of external financing of development within the UN System. The return of flows to developing countries in the early 1990s again turned attention away from the problem of reversal of net flows, although the problems of unsustainable indebtedness remained sufficiently severe for the least developed countries that, some twenty years after UNCTAD had called attention to the problem, the HIPC initiative was launched in 1996 to deal with unsustainable official indebtedness.

Although the positive net inflows experienced by developing countries in the early 1990s as the Brady restructuring process got underway, along with the widespread adoption of structural adjustment policies based on the Washington Consensus, led to a belief that the issue of financial flows was becoming manageable, the Tequila Crisis in 1994, followed by the Asian crisis of 1997, the Russian default in 1998, the Brazilian exchange rate crisis of 1999 and the collapse of the Argentine

---

11 Quoted by Andre Gunder Frank in “The Underdevelopment Policy of the United States in Latin America,” *NACLA Newsletter*, December 1969, p. 1.

12 As noted by Göran Ohlin, “The Negative Net Transfers of the World Bank,” *International Monetary and Financial Issues for the 1990s*, Research Papers of the Group of 24, Vol. V, United Nations, 1995, the World Bank group including IDA contributed to this result during the 1980s with reimbursement by developing countries greater than disbursements by around \$1 billion by 1990.

Convertibility Law in 2001 produced a return of negative net flows for many countries and renewed support for the Financing for Development initiative in the UN.

*A Secular Trend of Reverse Resource Transfers to accompany the Terms of Trade?*

It is interesting that while there has been a great deal of discussion concerning the existence and implications of the secular decline in the terms of trade, there has been no discussion of the existence and implications of what appears to have been a similar tendency of negative real resource flows from developing to developed countries. Rather than recognising the dangers in the form of excessive external debt and financial crisis involved in relying on external financing as a source of financing development discussion of the problem in the aftermath of the Asian Crisis and the 1998 Global Liquidity Crunch focused on Reform of the Financial Architecture. The discussion took two forms. Initially emphasis was placed on the need for global liquidity to counter rapid capital flow reversals and to provide an international lender of last resort facility to counter conditions similar to those that prevailed in the end of 1998 when even good quality developed country borrowers found it difficult to obtain financing. However, the discussion quickly turned from discussion of the design of the system, to reinforcing the internal plumbing of the existing system so as to create financial institutions and financial systems that were sufficiently robust to withstand the volatility of global capital flows without falling into crisis. While this approach sought a solution to one aspect of reliance on external financing for development – the increasing frequency of financial crisis, it did nothing to counter the persistence of negative net financial flows that remained the rule rather than the exception.

The Monterrey Consensus, through its “holistic” approach, implicitly recognised that the problems of external financing were inextricably linked to the problems of unsustainable debt creation and debt burdens, the sharp reversal of external flows and the relation of both to the increasing prevalence of financial crises in countries that had experienced periods of positive external capital inflows. However, it provided little in the way of concrete measures for reversing the trend, other than noting that developing countries bore the responsibility for their own development, basically through the implementation of domestic policies to generate more domestic resources and to attract more external



resource flows.<sup>13</sup> The basic framework was one in which the appropriate domestic policies and the creation of a stable international financial environment through the introduction of a number of best practice reforms in operation, supervision and regulation of financial institutions and markets in developing countries would allow external financing to play its presumed positive role in furthering development strategies.

However, anyone familiar with the history of international financial markets in the 19<sup>th</sup> and 20<sup>th</sup> centuries might well be sceptical concerning the possibilities for success of the current efforts to create a new international financial architecture capable of producing a stable financial environment.<sup>14</sup> But aside from historical scepticism, there are theoretical reasons to suggest that even in the absence of such factors as financial fraud, venality, irrational exuberance, rational bubbles, herding and pro-cyclical policies, volatility of financial flows and abrupt capital reversals may be the normal state of affairs in financial markets and that attempts to produce stabilization may in fact be counter productive. That financial instability may be the result of an endogenous process that is the very result of success in creating financial and economic stability was a central thesis of Hyman Minsky's work<sup>15</sup> on the process of financing domestic capital accumulation. The implication of his theoretical description of the evolution of financial markets in closed economies suggests that even if success were to be achieved in creating a stable financial system, it would soon become unstable of its own accord.

---

13 It is interesting to note that the recognition of the primary responsibility for development lies in the developing countries and their domestic policies to mobilise domestic resources has been the opening chapter in virtually every UN Conference on these issues starting with the first UNCTAD Conference in 1964, some forty years before Monterrey.

14 This result is independent of any criticism of the benefits to be gained by introducing best practice techniques in the form of uniform codes and standards in the regulation of developing country financial markets. See comments by Daniel Tarullo at the recent IMF Economic Forum "Is Financial Globalisation Harmful for Developing Countries" (<http://www.imf.org/external/np/tr/2003/tr030527.htm>) "My observations about transition regimes call into question the application of best practices, even the best practices developed in the best of faith by the best kinds of regulators..." (Transcript, p.29).

15 Minsky's hypothesis that financial crises are endogenous events inevitably generated by periods of financial stability evolved a great deal as he attempted more formal elaborations of the process. The most complete exposition is Minsky, H., *Stabilizing and Unstable Economy*, Twentieth Century Fund Reports, New Haven: Yale University Press, 1990.

## *2. Minsky's analysis of financial fragility*

Minsky's basic framework highlights the relationship between domestic business firms and the domestic banks that lend to them. However, the different types of repayment profiles that Minsky sets out to classify the potential fragility of the system have general application.<sup>16</sup> In particular, they can be applied to developing countries that rely on international financial markets to supplement the resources necessary for their development through positive net resource flows. That these flows should normally be positive is supported by the argument that since developing countries have higher prospective rates of return on domestic investment than more advanced industrial countries, and since their lower incomes are accompanied by lower savings ratios than in developed countries, efficient markets should intermediate a steady flow of lending to developing countries. This provides a mutually beneficial result of allowing developed country savers to exploit the higher returns while it allows developing countries to exploit their higher growth potential. Thus developing countries will be in the same position as a firm raising finance for investment.<sup>17</sup>

### *Financing Profiles and Financial Fragility*

Minsky defines debt repayment profiles starting from the balance sheet of the firm, noting that the income-generating capital investments on the asset side of the balance sheet have been financed by the issue of liabilities carrying cash payment commitments on the liability side. The repayment profiles classify the relation between the interest, dividend and amortisation payment commitments generated by the liabilities and the flows of income generated by operating the capital assets. For firms the cash

---

<sup>16</sup> I have experimented with this extension of Minsky's theory to the international context in a number of papers attempting to explain the financial crises of the 1990s. See Kregel, J. "Yes 'IT' Happened Again": The Minsky Crisis in Asia," in Riccardo Bellofiore and Piero Ferri (eds), *Financial Keynesianism and Market Instability*, Cheltenham: Edward Elgar, 2000, pp. 194-212; "East Asia Is Not Mexico: The Difference Between Balance of Payments Crises and Debt Deflations", in Jomo K.S. ed., *Tigers in Trouble: Financial Governance, Liberalisation and Crises in East Asia*, London: Zed Press, 1998, pp. 44-62; "Alternative to the Brazilian Crisis," *Revista de Economia Política - Brazilian Journal of Political Economy*, vol. 19, no. 3 (75) July-September, 1999, pp. 23-38.

<sup>17</sup> "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." Jacob Viner, "International Finance in the postwar World," *Journal of Political Economy*, 55, April, 1947, p. 98.

commitments are usually known with perfect certainty, as with fixed interest obligations, or under the control of the firm, as with dividends, while the latter may be highly volatile and subject to market or systemic factors outside the direct control of the firm. In difference from firms, sovereign borrowers face conditions in which both cash commitments and cash receipts are subject to volatility and uncertainty and thus outside their control.

The standard or benchmark profile is one in which in every future period the firm has a more than sufficient cushion of expected cash flow receipts to cover its commitments for debt servicing that it can easily meet them even in the presence of a chance rise in interest costs or decline in sales or prices or increases in costs. The firm with a “hedge” financing profile is thus virtually a risk free borrower. However, the majority of borrowers using financial leverage fall into what Minsky describes as a “speculative” profile in which the firm may not have cash flows sufficient to meet its outgoing payments on debt in some future periods, but over the life of the loan or the investment project it will be able to make good any shortfall. In financial jargon, the net present value of the project that is being financed is positive, even though receipts in some periods may be negative or insufficient to cover debt service – but if the lender is patient principal and interest will be paid in full.

The most famous of the profiles Minsky proposed is “Ponzi finance”, which arises when some unexpected and unforeseen internal or external event or occurrence is inflicted unto a firm with a speculative financing profile. As a result, it finds itself in a position where it cannot meet its current cash commitments and there is little expectation of it being able to do so for a sufficient number of future periods that the net present value of the investment being financed by the lender becomes negative. It could not meet its liabilities by liquidating its assets at their current fair value – the firm is insolvent. To stay current on its commitments and remain in operation the firm has to attract new lending to pay what it owes in debt service each period. It thus has to convince the original lender to increase the size of the existing loan, or get new loans from other lenders, even though it has little prospect of being able to service its existing loans – unless it is successful in getting additional funding in the future.

There is a major difference in the way a speculative finance firm and a Ponzi financing firm face their creditors. The main objective that the speculative firm has to achieve is to convince the banker that

the project is economically viable if carried to its completion. On the other hand for the Ponzi firm, the main objective is not so much the economic viability of the project being financed – if current and expected future conditions persist it no longer is viable – it has to convince lenders that it will be able to continue to borrow in order to meet its debt service.<sup>18</sup> Lenders have to be convinced that the borrower will be able to meet debt service, even if it is just in convincing them that there will always be a greater fool to lend the firm the money it owes them. It is clear why this represents a condition of extreme financial fragility, for once the firm fails to raise the funding necessary to meet current interest costs and doubts arise in the mind of the lender the pyramid comes crashing down like a house of cards in a financial collapse that will not only lead to the collapse of the borrower, but also may challenge the solvency of the lenders since there is no positive value to be claimed in lieu of payment.

The profiles provide a ranking of the potential for a financial crisis of the borrower and the impact on the lender when there is a change in external factors, such as interest rates. A hedge profile requires the largest changes in receipts or commitments to become a speculative profile, while a firm that starts out in speculative financing may become a Ponzi financing profile with a much smaller variation in internal or external conditions since its margin of safety represented by the excess of expected receipts over certain commitments is lower.

### *Financial Stability as a Chimera*

Minsky's theory is one of endogenously increasing financial fragility, based on the idea that as an expansion continues, both borrowers and lenders are willing to engage in activity with lower margins of safety.<sup>19</sup> An economy dominated by firms with hedge financing profiles therefore will gradually be transformed into an economy characterised by speculative finance which can be pushed ever more

---

18 Formally, a Ponzi scheme is a pyramid confidence game in which the returns to existing investors are paid from the inflow of funds provided by new investors. It is successful only if the rate of inflow of funds from new investors is sufficient to meet the outflow of payments promised to existing investors. The name comes from Carlo Ponzi, an Italian immigrant to Boston who tried, unsuccessfully, in 1920 to operate such a scheme on international postal coupons.

19 It is not necessary to assume that firms or banks become less careful in monitoring and assessing the risks associated with their proposed actions, but rather that their perception of normal conditions changes with repeated positive outcomes. See Kregel, "Margins of Safety and Weight of the Argument in Generating Financial Fragility," *Journal of Economic Issues*, June, pp. 543-8.

easily into Ponzi financing. Once negative net present values start to predominate, the problems of the borrowers also become the problems of the lenders, since the firms' liabilities are on the balance sheets of the lenders as assets. Thus, a decision by a lender to stop lending is a decision to recognise that what had been carried on its balance sheet, as a positive value now has none, and thus has to be taken as a charge against earnings and then against capital. If the lender had issued liabilities, as most financial institutions do, then the value of these liabilities becomes questionable and its lenders may withdraw, leading to what Minsky, following Irving Fisher, called a debt deflation. Borrowers attempt to sell assets to repay liabilities, which causes the value of the assets to plunge further, as investors "sell position to make position", creating a downward spiral in which everyone is a seller and prices continue to fall, causing even hedge units to be driven into speculative and then Ponzi financing. The result is a crisis in which no borrower or lender is able to meet commitments and debt servicing is suspended.

### ***3. Minsky in an International Context***

This general framework has a ready application to sovereign developing country borrowers. The cash to meet existing payment commitments on outstanding indebtedness can come from five possible sources:

- a positive net balance on goods and non-factor services trade,
- foreign exchange reserves generated by past current account surpluses,
- multilateral or bilateral public development assistance
- net private capital inflows
- foreign debt forgiveness.

In the early postwar period the latter two options were not relevant since the Bretton Woods System frowned on private capital flows and kept them to a minimum in the form of short-term trade credits. Countries were encouraged to have hedge financial profiles, with balanced external payments positions and reserves sufficient to act as a margin of safety against fluctuations in earnings. When the cushion of official reserves was not sufficient to meet payments and keep exchange rates from speculative attack, reserves could be supplemented by official lending by multilateral institutions such as the IMF. The majority of such lending was to industrialised countries with balance of payments

difficulties caused by internal or external shocks that turned what could be classified as a “hedge” financing profile into a “speculative” profile in which they could not meet payment for current goods and services at the existing fixed exchange rate. In exchange for temporary bridge financing from the IMF, the country agreed to adopt tight monetary and fiscal policies designed to reduce income sufficiently to bring about a fall in imports relative to exports (that were supposed to rise but usually also fell, but by less) in order to produce a reverse flow of resources in the form of a current account surplus that could be used to repay the official lending and replenish reserves. It is clear that such a system carried a deflationary bias since all countries could not have hedge financing profiles unless there was an external source of liquid reserves via a lender of last resort.

The basic philosophy behind this approach was that a commitment to a fixed exchange rate was identical to the commitment to pay in a timely fashion included in any financial contract so that devaluation was equivalent to a partial default on debt service to non-resident holders of domestic assets. The system was organised on the presumption that on average, over time, countries applying appropriate monetary and fiscal policies to preserve price stability would have a balanced external position and would always be able eventually to meet their financial commitments in terms of foreign currency at their declared par rate. Bretton Woods was a system organised for a world of more or less similar industrialised countries living in a world where “hedge finance” predominated as the norm with individual countries occasionally falling into speculative mode due to an unforeseen internal (excessive wage increases relative to productivity) or external shock (loss of a protected export market), which could be countered or offset by changes in internal (domestic absorption) policies. While the adjustments were implemented the payment shortfalls were met by official lending. It was only in the extreme case of fundamental disequilibrium that exchange adjustments (expenditure switching) were contemplated as a complement to internal adjustment policies.<sup>20</sup> Thus the accumulated stocks of external sovereign debt of most countries remained very low and the majority of international capital flows involved direct investments, for example by American companies setting up operations in Europe

---

<sup>20</sup> The first challenge to this approach came in the UK where it was argued that the high propensity to import made external balance structurally impossible at satisfactory levels of employment. This was also expressed in the idea of “elasticity pessimism” which suggested that exchange rate adjustments would face the same difficulties.

before the creation of the common external tariff of the European Economic Community and in Latin American countries, primarily in the areas of natural resource extraction.<sup>21</sup>

However, after the collapse of convertibility of the dollar in 1971 and of fixed exchange rates in 1973, which is normally considered the end of the Bretton Woods System, default on domestic currency denominated external commitments became acceptable in the form of flexible exchange rates. Thus, this form of default risk which had been born by the multilateral financial system and by national governments in the form of the cost of reserve balances was shifted to the individual lender. As a result foreign loans tended to be dominated in the currency of the lender. It also brought to an end the role of the IMF as sole provider of international liquidity and with fixed exchange rates no longer the lynchpin of the system, freer international capital flows became increasingly important, first in providing adjustment finance, but more importantly in making it possible to reap the efficiency gains thought to accrue from allowing the market to allocate capital internationally on the basis of highest returns. As already noted, it had long been taught that developing countries provided higher returns because their low domestic savings had prevented them from fully exploiting investment opportunities while developed countries with excess savings faced diminishing returns. Thus overall returns would be increased if free international capital flows allowed developed country savers to access the higher returns available in developing countries, allowing them to borrow to increase their savings and accelerate their investment and growth performance.

Whether or not the presumption that risk-adjusted returns in developing countries are superior to developed countries is correct, the rise in lending to developing countries in Latin America as petrodollars were recycled, followed by the sharp reversal of US interest rates and the appreciation of the dollar, quickly converted what had been speculative financial profiles of these countries into Ponzi profiles. The initial remedy, which for the developing countries involved was to produce current account surpluses to meet the debt service, and the distressing return of negative net resource transfers, required

---

21 Latin America continued to receive substantial private direct investment by US companies in the post-war period, concentrated in petroleum, manufacturing and mining as well as in the operation of public utilities. Between 1947 and 1952 the book value of US direct investment in Latin America as a whole increased at an annual average of around \$400 million (only slightly less than the entire amount of loans approved by the IBRD up to the end of 1953) concentrated in Cuba, Brazil, Venezuela, Mexico, Panama and Chile. However, around 60 per cent was reinvestment of profits, not new inflows.

such substantial declines in income as to produce what came to be called the “lost decade” of growth in Latin America and the risk of political instability. A solution was eventually found in the Brady Plan, which given the rejection of default as a solution accepted the natural response to a Ponzi financing profile, viz. to borrow more to meet outstanding financial commitments. The over-indebted Latin American countries sought to create conditions in which they could attract the additional borrowing required to meet debt service, in particular by finally burying the Bretton Woods preference for official capital flows and opening their capital accounts. The decision was supported by the belief in the increased efficiency that would result from free international capital markets. But, this implied prolonging the implicit Ponzi financial profile. Such a strategy to allow developed country lenders and developing country borrowers to emerge from the crisis was simply to prolong what was on Minsky’s definition “financial fragility” for its success depended on the willingness of lenders to continue to lend. However, the rapid return of financial inflows to developing countries in the beginning of the 1990s noted above hid the inherent fragility and in many circles a new view of development strategy became dominant and deregulated open competitive internal markets and free international capital flows were seen as the necessary and sufficient conditions for a successful development strategy.

#### ***4. Policy to stabilise external financing***

##### *Hedge financing profiles for developing countries*

From the perspective of Minsky’s balance sheet approach financial fragility may be reduced by measures that ensure that firms maintain hedge financing profiles by financial management that insures that exogenous changes in cash commitments are matched by changes in cash inflows to meet them. By analogy, the way to achieve a more stable international financial system is to ensure that developing countries stay as close as possible to hedge financing profiles. This means ensuring that net export earnings are always sufficient to cover their debt servicing needs in every future period. Since net export earnings for developing countries are generally highly volatile due to reliance on a small number of export commodities with highly variable demand and prices, this might involve calculation of the volatility



of net exports over a period of time and then limiting borrowing to the amount that generates debt service equal to average net export earnings less a cushion of safety represented by two standard deviations. Reserves could be held to cover all or part of the two standard deviation cushion of safety over debt service.<sup>22</sup> There is, however, one major difficulty with this approach to stability – stability precludes countries from utilizing net external capital inflows to finance their development!

### ***5. External Flows as a Sustainable Source of Development Finance***

It is possible to see the difficulties involved in providing hedging mechanisms to produce stability in positive net financial flows from developed to developing countries by reference to the analysis of a similar problem raised in the slightly different context of the appropriate policy for post-war economic recovery in a developed country. At that time development issues per se were not the focus of attention. The majority of what were to become developing countries were not yet independent nations. The major problem of development financing was reconstruction of the devastated productive capacity of the European economies. The major policy concern was the possibility that even those countries that had emerged with their productive capacity intact would return to the pre-war conditions of depression with the returning military combatants joining another army – the reserve army of the unemployed. However the idea of using a Keynesian policy of debt financed public investment was not well received and economists sought other alternatives.<sup>23</sup>

---

22 Usually the appropriate level of reserves is calculated as a multiple of a country's monthly import bill, seeking to smooth essential imports. A rather different approach is to link reserves to the debt servicing needs for the coming year. See *Trade and Development Report, 1999*, pp. 110-1.

23 Although A. P. Lerner ("Functional Finance and the Federal Debt," *Social Research*, 10, Feb. 1943, pp38-51) argued that domestically held debt denominated in the national currency was substantially different from international indebtedness in foreign currency that had been the main cause of the inter-war difficulties, and was thus not a cause for concern, the majority argued that debt-driven demand creation would produce such a large stock of debt that debt service would rise to extremely high levels, adding further to the amounts that had to be borrowed, leading to an exponential increase in the debt stock, creating conditions in which the government could no longer be able to borrow – in short, the strategy would become a self-defeating Ponzi scheme. Domar ("The Burden of the Debt and National Income," *American Economic Review*, 34, Dec. 1944, pp. 798-827) provided a counterargument, noting that the financing of the debt would come from the increased tax yields that would result from the increased income due to the government investment. Given the ratio of the public investment expenditure financed by borrowing to national income required to keep the economy at full employment, as long as the interest rate on the debt was not higher than the rate of expansion of income it generated to provide the means to pay the debt, the ratio of debt to national income could be stabilised at any particular level. Although the absolute amount of debt would increase

The US had emerged from the war with a substantial commercial trading surplus as the major supplier for the Allied armies, and a current account surplus due to its position as the major source of war finance. Keynes's theory of aggregate demand suggested that net exports provided an alternative source of demand enhancement and alternative proposals to ensure post-war recovery involved the possibility of avoiding debt-financing of government expenditure by relying on a permanent trade surplus.<sup>24</sup> Discussion quickly turned to a problem similar to that raised in objection to debt finance in the form of the accumulation of interest on the foreign lending that would be required to support a permanent commercial surplus. Maintaining a constant trade surplus (or trade surplus as a share of income) would require capital outflows in the form of foreign lending of an equivalent amount (or share of income), given reserves and exchange rates. But, the foreign lending would soon generate return flows of interest and profits remittances which would create a surplus on the factor services balance of the current account. In the absence of any change in the amount of capital outflows the trade surplus would have to shrink to accommodate the increased factor services balance. Alternatively, foreign lending would have to rise each year by an amount sufficient to cover the increasing earnings from interest and profits. In the former case the trade balance and the impact on demand would disappear, in the latter an ever-increasing capital outflow would be required.

Domar, recognising the similarity with his earlier argument on the sustainability of debt-financed public investment, provided the answer that again turned on the interest rate. As long as capital outflows increased at a rate that was equal to the rate of interest received from the outstanding loans to the rest of the world, the inflows created on factor service account by the interest and profit payments would just be offset so there would be no net impact on the trade balance. On the other hand, if interest rates were higher than the rate of increase in foreign lending the policy would become self-defeating and the trade balance eventually become negative to offset the rising net capital service inflows. Eventually the continually rising factor service flows would turn the trade balance negative.

---

without limit, so would income to service it, making it sustainable in the long run.

<sup>24</sup> The subject of a special session at the 1945 annual meetings of the American Economic Association that included contributions by Randall Hinshaw, "Foreign Investment and Full Employment," Hal B. Lary, "The Domestic Effects of Foreign Investment," with discussion by Raymond F. Mikesell, Jacques J. Polak and John Parke Young. See *American Economic Review*, 36, May 1946.

At the time the discussion was not concerned with the impact of the US policy on the rest of the world – the idea was to find a way to full employment that did not require domestic borrowing. Foreign lending seemed clearly favourable to domestic borrowing on both political and economic grounds. Few recognised that this policy was precisely what would be required if the developed world were to provide the finance for the developing world – positive net resource flows from developed to developing countries -- that has been the basis of development policy in the post-war period. Reversing Domar’s analysis allows analysis of this problem, but now from the point of view of a developing country as the recipient of the foreign lending.

Foreign capital is required to finance the excess of imports of necessary consumption goods and capital goods over exports required for the development plan – these are the positive net resource flows encouraged by policy. A development strategy based on external financing implies a trade deficit balanced by foreign capital inflows. But, the obverse of the argument for a developed country says that the deficit on goods trade will soon generate debt service payment outflows that cause the current account deficit to increase unless the trade deficit is reduced to accommodate a fixed level of capital inflows. Alternatively, capital inflows would have to rise to accommodate the rising current account deficit caused by the increased payments on capital factor services account for any given goods account deficit. Following Domar’s argument for developed countries, it is only possible to maintain a development strategy based on net imports financed by foreign capital inflows if the interest rates on the foreign borrowing are equal to the rate of increase of foreign borrowing. If interest rates are higher than the rate of increase of inflows, just as in the case of a developed country seeking to preserve full employment through a permanent trade surplus,<sup>25</sup> the policy will eventually and automatically become

---

25 It is interesting that when the US was facing external difficulties in the 1960s Fleming and Mundell argued that the conflict between internal (full employment) and external balance could be resolved by increasing interest rates to attract foreign capital inflows to finance the trade deficit associated with full employment public spending (in difference from post-war resistance to domestic borrowing, foreign borrowing seems to have been considered acceptable). Since the analysis was “short-run” in the sense that it ignored the impact such borrowing would have on the stock of outstanding debt, and thus the negative impact on the factor services balance of payments, that would cause an ever increasing amount of foreign indebtedness and the possibility of either rising interest rates or a decline in lending that would recreate the conflict and require a reduction in income and employment to restore external equilibrium. Cf. Gandolfo, below for recognition of the problem.

self-reversing as the current account becomes dominated by interest and profit remittances that exceed capital inflows.<sup>26</sup>

It is important to note that increased exports will do little to eliminate this problem. For example, in the case of a fixed level of capital inflows a rise in exports to offset the rising debt service will reduce the net trade deficit and thus the net resource inflow available to finance development. The same will be true if exports rise to meet the excess of capital remittances over increasing capital inflows, for this will also lead to a reduced deficit on goods account.

With respect to the stability of the financial system, it is interesting to note that the Domar conditions for a sustained long-term development strategy based on external financing, on sustained positive net resource transfers are the precise equivalent of the conditions required for a successful Ponzi financing scheme. As long as the rate of increase in inflows from new investors in a pyramid or Ponzi scheme is equal or greater than the rate of interest paid to existing investors in the scheme there is no difficulty in maintaining the scheme. However, no such scheme in history has ever been successful – they are bound to fail, eventually by the increasing size of the net debt stock of the operator of the scheme. The historical conditions in which developing countries have been able to benefit from such conditions have been extremely rare – aside from the early 1970s<sup>27</sup> and the early 1990s – and certainly do not prevail in current private international market conditions where risk premium alone are several multiples of domestic growth rates.

In actual practice it is highly likely that capital inflows will start to fall off as the current account deficit increases beyond some threshold level, currently considered to be around 4 per cent of GDP<sup>28</sup>

---

26 Ohlin, *op. cit.*, p. 2 saw the problem, apparently without the aid of either Minsky or Domar “For the net transfer to a country to remain positive, net new lending must exceed the interest on the old debt. That is another way of saying that the rate of growth of debt must be greater than the average interest rate on the old debt. If the rate of interest exceeds the rate of growth of the underlying economic aggregates out of which debt is to be serviced, such as national product or export earnings, a continued positive net transfer to a country will result in a deterioration of the indicators by which the risk of the debt is assessed. In the end such a transfer will not be sustainable.”

27 Analysis of the data for international private bank lending to Latin America for the 1970s provided by Aldo Ferrer, *¿Puede Argentina Pagar su Deuda Externa?* Buenos Aires: El Cid Editor, 1982, p. 54 shows rates of increase of 33 per cent per annum for Mexico, 27 per cent for Brazil and 48 per cent for Argentina in the period 1976-1981.

28 G. Gandolfo, *International Economics II: International Monetary Theory and Open Economy Macroeconomics*, Berlin: Springer-Verlag, 1987, p. II:206-7 provides the equivalent analysis for the developed economy noting the

and quickly create crisis conditions in which official support is necessary in the form of an official financing. The resolution of the crisis caused by the breakdown of the Ponzi financing scheme is the generation of a negative flow of real resources that is sufficient to generate the external surpluses necessary to resume debt servicing on its private debt and to repay the official lending.

Just as a permanent current account surplus financed by a permanent increase in foreign lending at interest rates higher than the rate of interest on the lending did not provide the US with a permanent full employment policy, external financing cannot provide developing countries with a permanent development strategy unless the rate of increase of export earnings is equal to the rate of interest on the outstanding debt.<sup>29</sup> However, when the foreign borrowing is not used for expenditures that create net foreign exchange earnings (it makes little difference if this is domestic infrastructure investment, or purchase of basic or luxury consumption goods, or military equipment) it means that the country's development planning is subject to maintaining the steady rate of increase in capital inflows and becomes hostage to international financial markets. Any external event, which causes inflows to change, will create domestic instability and require domestic adjustments to reduce dependence on external resources, usually leading to financial crisis through failure to meet financial commitments. At the same time, in order to make foreign lenders confident in the country's ability to meet foreign commitments, policies that enhance the short-term ability to pay, such as building up foreign exchange reserves or reducing external dependence by reducing domestic growth to produce a stronger export performance and fiscal balance will be implemented. But, these policies are also self-defeating, since they either reduce the capital inflows that can be maintained on a permanent basis, or reduce the growth of per capita incomes. External financing as a permanent source of development financing is thus a two-edged

---

impact of the payment of interest of foreign borrowing to finance domestic full employment strategy in a Fleming-Mundell model will cause the external balance curve to bend backwards in interest rate-income space as the share of interest payments in the current account balance increases, a move that is accentuated when interest rates rise because of rising international risk premia, and may cause the curve to shift in the case of a falloff in lending.

29 Indeed, Hinshaw notes that the US external surplus in the 1920s did not produce a flow of capital abroad, but rather it was financed by the invisibles deficit caused by a surplus on gifts and remittances to foreigners. As he notes, foreign giving, as opposed to lending, involves no payment of interest and thus can be continued indefinitely without any impact on the balance of payments, *op. cit.*, p. 664. The same absence of large capital outflows to support the US trade surplus was repeated in the 1950s and 60s, but with military and other political transfer payments on invisibles account substituting for gifts.

sword that must be managed judiciously if it is to contribute to development rather than becoming a source of persistent financial instability and crisis.

It is important to note the relation between a policy of development from without based on external financing and the debt problem. Just as Domar's original analysis was designed to find the conditions under which the ratio of debt to national income would stabilise, the analysis of external lending was designed to find the conditions under which the ratio of the current account to national income would stabilise. However, as noted, the stability of the ratio means an ever increasing absolute amount. The ever-rising absolute amount of foreign lending translates into an ever-rising amount of external debt for developing countries whether interest rates are equal or below the rate of increase in inflows. Thus the fact that such policies represent a de facto "ponzi" financing scheme which creates financial fragility that produces crises and/or reverse resources flows which damage growth is then just a different way of explaining the fact that large external debt burdens tend to have a negative impact on developing country growth.<sup>30</sup>

In the early post-war period when official external financing occurred at low interest rates, the Domar condition was probably met<sup>31</sup> and external financing was a viable long-term strategy and the stress on increasing the flow of official assistance and public funds was appropriate. When the majority of financing shifted to private markets in the early 1970s at negative interest rates with rising flows the strategy was also viable. However, when international interest rates and dollar exchange rates reversed in the late 1970s, the policy was no longer sustainable and financial crises became prevalent.

## ***6. The Implications of External Flows as a Ponzi Financing Scheme for Development Policy***

---

<sup>30</sup> Catherine Pattillo, HJ Poirson, and Luca Ricci, "What are the Channels Through Which External Debt Affects Growth," Washington D.C., International Monetary Fund Working Paper, WP/04/15, January 2004 note that a doubling of debt in high debt countries is associated with about a 1 percent reduction in output growth, but they identify the causes as a reduction in the rate of total factor productivity growth and capital accumulation, rather than in the reverse flows that emerge from externally financed development that causes the debt stock buildup.

<sup>31</sup> Although the Report of the Secretary-General of the UNCTAD I Conference (*op. cit.*, p. 45) notes that the growth rate of debt service payments for all developing countries between 1956 and 1963 on public and publicly guaranteed debt was in excess of 19 percent while the annual average rate of increase was around 15 per cent. official lending in total resource transfers.

The implications of the argument concerning the sustainability of external flows should be interpreted carefully. There are three possible general cases.

*Case 1 Rate of Interest on Foreign Borrowing Exceeds Rate of Increase of Capital Inflows:*

Domar's argument is made on a comparison of unchanged rates of change over time. On this basis it is possible to conclude that whenever the assumed constant servicing rate on foreign borrowing over time is above the prevailing and assumed constant rate of increase of inflows the borrowing country will experience continually rising external debt stocks and an eventual crisis and reversal of net resource flows that may lock the economy into a low-level debt trap. A sustained development policy based on external capital is not viable in these conditions.

*Case 2 Rate of Increase of Capital Inflows Equal or Greater than Rate of Interest on Foreign Borrowing:*

On the other hand, even if the Domar sustainability condition is met and the assumed constant servicing rate is equal or below the assumed constant rate of increase in capital inflows, it will still be true that external debt stocks will rise continuously and the borrowing economy will be subject to increasing financial fragility and financial crisis since a small internal or external shock that causes an increase in its net goods account deficit through either a falloff in export volumes or prices, or an increase in export volumes or prices. Or a reduction in the rate of increase in capital inflows or an increase in the rate of interest on foreign loans will cause reversion to Case 1

*Case 3 Rate of Increase in Capital Inflows and Interest Rates Vary Over Time:*

Indeed, the normal case is for both the rate of debt servicing and the rate of capital inflow to be highly variable. Capital surges can bring about sharp increases in inflows that increase the rate of increase in inflows above the servicing rate, but that bring about bunching of repayments in the future and create large accumulation of non-repatriated profits that can be rapidly reversed when capital flows fall off to rates below the servicing rate and aggravating the reversal of resource flows. These

fluctuations will be aggravated if the tenor of lending is particularly short term, as this will increase the variability of both the rate of increase of inflows and the variability of the rate of interest.

For Case 1 it is clear that the problem lies with the disparity between the rate of interest and the rate of increase of capital inflows and can be remedied by action to reduce the former or increase the latter. It is interesting that the period of greatest success of external financing occurred when international capital flows were intermediated by the multilateral financial institutions at preferential interest rates and long maturity or through grants-in-aid. However, the international financial system and the reform of its architecture seem to have consistently moved away from this framework to restore a system of private financial flows at market rates which are generally believed to have caused the international system breakdown the repetition of which these institutions were created to prevent.

For Case 2, where strategy is sustainable the basic problem is to implement a policy of transition which allows the use of the positive resource flows to create domestic productive capacity that allows the borrower to grow at its maximum potential rate without pushing the economy into financial crisis. In order for a development policy based on external flows to be successful, the external resources would have to be dedicated to the creation of a competitive industrial sector<sup>32</sup> to increase manufactured goods exports, allowing increased total imports for a given rate of capital inflow and eventually allowing exports to shift to covering debt service, allowing the rate of capital inflows to decline *pari passu* until the current account went into deficit, external debt was fully repaid and the country became a capital exporter with reverse capital flows. However, with free international capital markets a smooth transition of this nature is unlikely since success makes the country a more attractive and a less risky investment destination so there will be a tendency for flows to increase, making some sort of controls necessary. The goal is to reach an end state in which net export surpluses of goods and services are sufficient to repay foreign borrowing. This policy must thus have as components a policy of export promotion, as well as a policy of controlling the rate of increase of foreign borrowing and ensuring that the tenor of the borrowing is the same as the length of the development plan. Thus policies to increase the maturity and repayment structure of the lending may be as important as policies to ensure low interest rates.

---

<sup>32</sup> Although *Trade and Development Report, 2003*, suggests that this is precisely what those developing countries



The alternatives would be for foreign investors to automatically reinvest interest and dividends<sup>33</sup>, or to avoid the use of fixed interest rate instruments. Domar suggests that “The simplest and most obvious remedy lies not in abstaining from foreign investment which the world needs badly, but in reducing the interest rate on public lending to a minimum consistent with the preservation of international dignity; surely we don’t need the interest as income” (Domar, *op.cit.*, p. 133). In his Report to the First UNCTAD Conference Prebisch suggests the creation of a fund to provide “compensatory finance” which would be in the form of non-interest-bearing grants in amounts calculated to compensate countries for their terms of trade losses.<sup>34</sup>

Another alternative, given by Ohlin, is to recognise that deregulated open competitive internal markets and sustained international capital inflows are neither necessary nor sufficient conditions for a successful development strategy. He notes that there is “sometimes an indignant presumption that there should always be a net transfer to developing countries in order to help them to import more than they exported. Behind this presumption there is the old idea that countries in the course of their development should be capital importers until they mature and become capital exporters. This, however, does not mean that they should receive positive net transfers, borrowing more than they pay in interest and dividends. ... If export performance and the returns on the use of foreign resources are adequate, foreign debts and investments can be serviced without the aid of new loans.”<sup>35</sup>

For Case 3, which is in fact a simple extension of Case 2 to real world conditions, the policy must be to try to maintain the Domar sustainability conditions of Case 2. For sharp surges in inflows this may require controls on inflows or an attempt to restructure repayment profiles to eliminate bunching.

---

most open to external flows have not been able to do.

33 One of the reasons why direct investment flows that have come to dominate international flows are considered a stabilising factor is that much of officially recorded direct investments are non-repatriated profits which do not represent new net flows. While this reduces payment commitments, it simply transfers them to the future and makes cash commitments less certain. See Kregel, “Some Risks and Implications of Financial Globalisation for National Policy Autonomy,” *UNCTAD Review 1996*, Geneva, March 1997, pp. 55-62.

<sup>34</sup> Prebisch notes that developed countries do exactly the same thing when compensate their domestic agricultural producers through price supports or other subsidies, so if the international community is serious about providing support to developing countries they should be willing to return the terms of trade gains they derive from internationally traded primary commodities.

<sup>35</sup> Ohlin, *op. cit.*, p. 3.

For sharp reversals in flows some sort of developing country lender of last resort would be required in order to smooth the rate of increase of inflows over time. The Conditional Credit Line of the IMF went some way towards meeting this goal, but its conditions were not conducive to use and it has been abandoned. Given the increased reliance on external financing and private financing, the importance of international liquidity to smooth over volatility has become increasingly important at precisely the time when these institutions willingness and ability to provide such liquidity has been sharply reduced and what is provided is now provided at market rates and additional conditionality. In most financial systems the discount window of the central bank was not only a source of liquidity to institutions in liquidity difficulty but at rates that were clearly below market since there was no market borrowing available. As a result, fluctuations in inflows have increasingly been transformed from liquidity to solvency problems. The shift from multilateral lending to private lending has thus reduced liquidity, increased interest rates on both normal flows and distress borrowing flows, and thus increased the financial fragility associated with international borrowing.

The present analysis also suggests that the Bagheot principle that last resort lending should be at penal interest rates to encourage domestic solutions should not be extended to the case of countries experiencing volatility in external flows since it defeats the purpose of development based on external finance by pushing a country back towards Case 1.

For declines in export volumes and prices, there are well-known remedies that have been discussed since the United Nations Conference on Trade and Employment in Havana and the first United Nations Conference on Trade and Development, including developed country policies to ensure full employment of their economies, commodity price stabilization schemes, import targets for developing countries, non-reciprocal trade concession, preferences for developing country exports, regional preferences among developing countries, and compensatory finance to offset losses in the purchasing power of exports due to declines in the terms of trade. For increasing import volumes, some control on the direction of the net resource inflows to ensure the positive transition mentioned for Case 2 is achieved may be required, while compensatory finance covers the losses due to rising import prices.

The Sovereign Debt Restructuring Mechanism (SDRM) arrangements currently under discussion, and the collective action clause (CAC) stipulations that have been included in several recent

sovereign bond issues subject to New York legal adjudication, provide for resolution when lenders have decided that a Ponzi scheme cannot be continued, but the point of creating a financial environment in support of development should be to create mechanisms that shield against a country from having a “Ponzi” profile create financial crisis. This will require that countries have some control over the amount of capital that enters the country and its tenor and performance conditions, as well as recognising that a development strategy built solely on foreign lending is a Ponzi scheme that cannot succeed on a long-term basis any more than full employment in the post-war US could be built on continuous capital outflows and export surpluses.