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A Critical Overview and Examination of Global Financial Architecture Proposals and their Relevance to Small Economies

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and

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Abstract

This paper analyses in a critical manner selected proposals pertaining to the global financial architecture. The current international financial system is prone to generate financial instability and financial crises. In addition, the current system is associated with lower rates of economic growth than those prevailing during the golden age of capitalism (1950-1973). Furthermore it has made the foreign exchange constraint more binding through market liberalization encouraging nations to accumulate reserves via current account surpluses or capital inflows which include debt inflows. The financial architecture proposals are of two types. The first seek to reform and patch the existing system. The second type seeks to re-haul the current financial architecture. This has led to a debate between plumbers and architects. The paper argues that neither provides a coherent and viable solution to reform the existing financial system and even less to provide the foundations of a financial system beneficial to smaller economies.

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Introduction

This paper provides a critical overview and examination of global financial architecture proposals and highlights their relevance to smaller economies. The paper is divided into five sections. Following the introduction the first section presents stylised facts pertaining to the end of the Bretton Woods Era, globalisation and financial crises. The second section describes the relevance of the global financial architecture for smaller economies. The third and fourth section presents two opposite proposals for financial reform. The first type centres on the introduction of some type of reform to the existinbg system. The second type, the architectural solution, is based on the underlying premise that the existing global financial system is flawed and that a new one must be constructed. The last section uses Thirlwall's Law to show that the architectural solution eliminates an important constraint on growth but however it does not address the problem of financial fragility which is a recurrent feature of market economies.

The end of Bretton Woods, globalization and financial crises

Since the demise of the Bretton Woods system there has been a growing dissatisfaction with the operation and function of the international financial system. At first the criticisms focused on the volatility of exchange rates (Hallwood and MacDonald, 1994, p. 380 and Eichengreen, 1992). The dissatisfaction was accompanied by a growing desire to move to a 'new form' of international financial system. As put by Hallwood and MacDonald, Ibid, : 'At the heart of the desire to move to a new form of international monetary system is the belief that exchange rate volatility that has been such a feature of the recent float has had a deleterious effect on trade flows and on the ability of governments to pursue non-inflationary macroeconomic policies.

Nonetheless the abandonment of the Bretton Woods System was seen to be justified. The system was portrayed as having an 'inflationary bias and lack of an effective adjustment mechanism' (Ibid). More to the point the system suffered from Triffin's Dilemma.

This sentiment has been aggravated with the increasing liberalization of markets and financial globalization. If in part the trend towards liberalization was in part responsible for the debt crisis (Ffrench-Davis, 1999) and the ensuing lost decade that affected many Latin American economies; liberalization cum financial globalization has been associated with the greater number of financial crises and financial instability.

According to Lamfalussy (2000, pp. 67-72) the main corollaries of financial globalization are: (i) wider geographical spread of globalization; (ii) increase in the external exposure of financial institutions; (iii) increase in countries external exposure (cross border transactions in bonds and equities rose from 9% in 1980 to 1997 213% in the United States; from 8% to 96% in Japan; from 7% to 253% in Germany and from 5% to 313% in France; (iii) it has become difficult to distinguish between financial intermediaries and financial product; (iv) shift in the financial system from banking to

market centric (exponential growth of the derivatives market); (vi) the significant increase in volume and average size of financial transactions which has led to a 'surge in the volume of domestic and international payments' and (vii) the rise in he magnitude of institutional investors.

Financial globalization can lead to financial fragility for several reasons. These include the 'disproportion between the actual or potential size of capital inflows or outflows into or from emerging markets and that of the markets themselves'; the increase in competition fosters economic agents to exploit a trade-off between high risk and large capital gains as well as band-wagon effects. Two other factors that may enhance financial fragility are the advanced communications technology and financial market opaqueness caused by off-balance sheet activities, securitization and the rapid development of derivatives (Ibid pp.73-82).

Although financial crises, bubbles and other extreme monetary phenomena are far from new (witness just to name a few the Dutch tulip mania of 1636-37, the South Sea Bubble of 1720, or the crises described in Milton Friedman's Monetary History of the United States); current crises are characterized by their severity and most important their frequency.

Hyman Minsky's 1982 'Can it happen again?' question can be given without doubt a positive answer, 'yes it does happen again and most likely will happen again.' Financial crises have become a recurrent phenomenon.

Adelman (2000, p. 1053) states: 'There have been about 70 financial crises during the last 20 years or so. Since 1980, three quarters of the International Monetary Fund (IMF) member countries, developed and developing alike, have been hit by financial crises...fully one-third occurred in developed countries. The proximate triggers for these financial crises have been massive outflows of short-term capital, which the architecture of he global financial system enables, if not stimulates.' More recently a mainstream and Nobel Prize winner economist, Joseph Stiglitz (2003) has stated: 'Something is wrong with the global financial system...international financial crises or near crises have become regular events....the question is not whether there will be another crisis, but where it will be.'

Global financial architecture and smaller economies

The current financial architecture has a further dimension which is fundamental to developing economies and in particular smaller economies. The current system is associated with lower rates of economic growth than those prevailing during the golden age of capitalism (1950-1973) which coincided with Bretton Woods. This is clearly seen in Table 1 below.

Table 1 Real GDP growth 1950 – 2001				
Period	World	OECD	Developing Nations	United States
1950-1973	n.a.	5.9	5.5	4.2
1966-1973	5.1	4.8	6.9	4.0
1974-1980	3.4	2.9	5.0	2.5
1981-1990	3.2	3.1	3.3	3.2
1991-1997	2.2	1.9	5.0	2.8
1993-2002	3.5	2.7	5.1	3.4
Source: Davidson (2003), NBER (2004).				

The lower growth corresponds in part to a deflationary bias of the existing system. The current system is anchored on the United States dollar which is the means of payments that is used to settle international transactions. As put by D'Arista (2003, p. 560) countries, other than the United States, must "acquire a means of payments they cannot themselves issue." Thus they are forced to accumulate reserves via current account surpluses or capital inflows which include debt inflows.

The need to accumulate reserves combined with market liberalization which has resulted in an increase in imports that has not been matched by an increase in exports (this is shown in Table 2 below, where the rate of growth of imports increased from 0.2% to 7.7% between 1980 and 2000) has made the foreign exchange constraint more binding. On average the current account deficit increased between 1970-1980, 1980-1990 and 1990-2000 from 3% to 8.78% and to 9.4%.

Overcoming the binding foreign exchange constraint has implied concentrating efforts and resources in attracting foreign direct investment. However the attraction of foreign direct investment has come at the expense of domestic investment.

At the same time that foreign direct investment inflows have increased, for some economies, gross domestic investment as a percentage of GDP for the economies of the Caribbean have remained unchanged at the regional level and in many country cases this ratio has decreased (See Tables 6 for Caribbean countries). This may provide an indication that, contrary to common belief; foreign investment may not have acted as a catalyst for growth. In fact, it may simply act as a substitute for domestic investment. In other words, foreign investment may have crowded-out domestic investment.[2]

[2] In the standard literature foreign investment is presented as a key component of a long-run growth strategy. It can be hypothesized that foreign investment when accompanied by a decline in real wages can act as a motor for growth. Preliminary evidence in this direction is available in the case of Mexico (See, Table 11 in the appendix).

Table 2: GDP, export and import growth, 1950-2000			
Rates of Growth	1950-1980	1980-1990	1990-2000
GDP			
Latin America	5.47	1.16	3.27
Big economies	5.91	1.22	3.18
Medium Sized economies	4.51	0.82	3.57
Small economies of LA	4.57	1.12	3.54
CARICOM economies	.....	2.70	1.80
Exports			
Latin America	3.76	5.26	9.12
Big economies	4.94	7.12	10.43
Medium Sized economies	2.36	3.22	6.98
Small economies LA	4.94	2.29	6.12
CARICOM economies	.....	.....	.....
Imports			
Latin America	5.10	-0.02	10.68
Big economies	5.12	0.73	11.74
Medium Sized economies	4.68	-1.99	9.59
Small economies LA	5.72	0.15	7.65
CARICOM economies	.....	.....	.....

Source: Moreno-Brid (2001); ECLAC (2002)
Note: The author follows the ECLAC methodology of dividing Latin American economies in big (Argentina, Brazil, and Mexico), medium sized and (Colombia, Chile, Peru, Venezuela) and smaller sized economies (Bolivia, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Panama, Paraguay, Dominican Republic, and Uruguay).

Table 3
The Current Account as a % of GDP
Central America and the Caribbean
1970-2000

Country	1970-1980	1980-1990	1990-2000
Antigua and Barbuda	-12.86	-21.27	-4.52
The Bahamas	2.80	-3.99	-6.75
Belize		0.73	-5.14
Barbados	-13.75	-0.92	1.56
Dominica	0.83	-12.08	-15.68
Grenada	0.86	-10.60	-18.25
Guyana	-14.38	-26.42	-28.31
Haiti	-1.97	-4.86	-1.72
Jamaica	-3.62	-7.58	-3.25
St. Kitts and Nevis		-14.07	-22.37
St. Lucia		-12.48	-11.95
Suriname	4.95	1.52	2.19
Trinidad and Tobago	6.26	-3.12	0.53
St. Vincent and the Grenadines	-0.41	-7.87	-17.93

Source: ECLAC, World Bank

This revealed preference for foreign over domestic investment, encouraged by national economic policy, has underpinned a pattern of productive specialization that in some cases, is reflected in the change in the composition of GDP. This change is often viewed, perhaps erroneously, as a process of structural change brought about by globalization when in fact it is a result of the policy options implemented.

The case is most clear for Caribbean countries where the manufacturing sector during the 1990's has virtually stagnated. On the contrary service and natural resource based activities have increased their contribution to GDP significantly. As shown in Table 8 below the contribution of the manufacturing sector has remained during the 1990's decade at 12% while tourism has risen from 39% to 47%.

The sources for foreign exchange flows include mainly grants and official loans, non-factor service earnings, unilateral transfers (i.e., remittances), official, and foreign direct investment flows. Of these, grants are the most insignificant source of financing representing on average 3.7% of GDP (see Table 4 below). This is the result of a declining trend that can be traced at least to the beginning of the 1980's decade. Regional computations show that official aid represented 59% of total net financial flows and decreased to represent only 6% by the end of the 1990's decade. The most important component of foreign exchange flows are net service earnings which represented on average 14% of GDP for 2001 followed by foreign direct investment (9% of GDP for the same year). In addition as shown in Table 5 below foreign direct investment has maintained its share in total net financial flows becoming its single most important component.

Table 4
Foreign exchange flows, 2001

Country	Grants as % of GDP	FDI as % of GDP	Services receipts as % of GDP	Unilateral transfers as % of GDP
Anguilla	2.07	29.03	29.59	0.13
Antigua and Barbuda	.....	5.70	36.28	0.88
Barbados	.....	2.13	23.02	3.68
Belize	17.66	7.44	6.55	5.99
Dominica	3.64	4.52	9.16	6.65
Grenada	4.20	12.25	15.62	5.45
Guyana	5.94	7.95	.....	6.24
Jamaica	0.27	8.45	5.25	12.20
St. Lucia	0.98	3.39	29.61	2.07
St. Kitts and Nevis	0.50	25.62	9.75	5.39
St. Vincent and the Grenadines	1.84	6.06	20.81	4.39
Suriname	0.20	1.56	-15.09	-0.12
Trinidad and Tobago	.....	7.64	2.54	0.37
Average	3.73	9.36	14.42	4.10

Source: On the basis of official data

Table 5
Composition of net financial flows for Caricom economies
In percentage of the total
1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total net financial flows	100	100	100	100	100	100	100	100	100	100	100
Total net long term	85.73	107.64	90.94	102.54	103.70	72.10	128.90	72.68	105.29	73.27	100.00
Official flows	**59.25**	**92.44**	**29.22**	**39.18**	**14.85**	**23.50**	**14.56**	**5.82**	**13.43**	**6.86**	**6.34**
Grants	33.88	64.12	20.43	35.32	20.66	24.11	25.78	16.10	20.70	17.38	4.76
Loans	25.37	28.33	8.79	3.86	-5.82	-0.61	-11.22	-10.28	-7.26	-10.51	1.58
Private flows	26.49	15.19	61.71	63.36	88.85	48.60	114.34	66.86	91.86	66.40	93.65
Debt flows	-42.55	-27.52	-12.64	-14.16	-11.22	-19.88	-6.28	-4.77	7.32	-0.04	33.69
Commercial bank loans	-12.07	-1.12	-4.07	-1.86	-3.30	-6.26	-8.27	-2.46	-2.69	-4.65	4.99
Other	-24.56	-26.41	-8.57	-12.30	-7.92	-13.63	1.98	-2.31	10.01	4.62	28.70
Foreign direct investment	**69.04**	**42.71**	**74.35**	**77.53**	**100.07**	**68.48**	**120.62**	**71.63**	**84.54**	**66.44**	**59.96**
Short term debt flows	14.27	-7.64	9.06	-2.54	-3.70	27.90	-28.90	27.32	-5.29	26.73	0.00

Source: On the basis of World Bank and ECLAC data.

Table 6
Gross Domestic Investment (As percentages of GDP) in the Caribbean
1980 – 2000

Country	1981-1990	1991-2000	1998	1999	2000
Antigua and Barbuda	33.8	33.6	32.4	32.8	29.9
Barbados	18.6	15.2	18.5	19.4	18.1
Belize	23.6	25.9	25.8	26.1	31.6
Dominica	31.1	29.0	27.0	28.5	29.3
Grenada	34.0	34.9	37.4	35.7	38.6
Guyana	28.0	31.3	28.8	24.5	22.3
Jamaica	23.1	28.1	27.2	25.6	26.8
St. Kitts and Nevis	37.7	42.6	43.0	37.4	45.0
St. Lucia	26.8	23.6	23.8	25.8	24.5
St. Vincent and the Grenadines	28.9	28.7	31.8	32.6	28.0
Suriname	19.9	16.4	18.1	15.6	11.0
Trinidad and Tobago	20.3	20.7	27.9	21.4	19.1

Source: World Bank (2002); ECLAC (2002)

Table 7
Public debt in the Caribbean

Country	Total public debt as % of GDP 2003		Internal Debt as a percentage of GDP 2003	External debt as a percentage of GDP 2003
	1997	2003		
Anguilla	10.7	17.2	3.8	13.2
Antigua and Barbuda	107.0	151.7	68.9	83.1
The Bahamas	46.0	45.0	31.5	5.6
Barbados	62.0	71.1	54.9	25.9
Belize	41.0	88.9	13.0	75.8
Dominica	61.0	127.0	39.4	87.6
Grenada	42.0	110.1	30.1	79.9
Guyana	211.0	172.0	....	172.0
Jamaica	103.0	142.0	85.4	56.5
Montserrat	26.0	16.4	2.8	13.2
St. Kitts and Nevis	86.0	162.0	75.4	86.6
St. Lucia	36.0	66.1	19.1	46.9
St. Vincent and the Grenadines	48.0	76.7	25.6	51.4
Suriname	24.0	37.0	9.8	27.2
Trinidad and Tobago	52.0	28.0	....	13.8
Average	64	87	35	56

Source: on the basis of official data.

In addition, foreign direct investment has not been sufficient to bridge the foreign exchange gap. In fact economies have increased their levels of indebtedness. It is curious to note that the increase in the levels of indebtedness has occurred in the period of growing 'market liberalization' (See Table 7 above). On average the public debt to GDP ratio has increased from 65% to 87% of GDP from 1997 to 2003. When decomposed in terms of its internal and external component, the former represents 35% of GDP of the total while the latter has reached 56% of GDP. In the cases of The Bahamas, Barbados and Jamaica the internal debt ratio is greater than the external debt ratio (See again Table 7).

Currently, eleven of these economies (Guyana, St. Kitts and Nevis, Jamaica, Antigua and Barbuda, Dominica, Grenada, Belize, St. Vincent and the Grenadines,, Barbados, St. Lucia, Suriname and The Bahamas). are among the 30 most indebted emerging market countries. Down to the detail, Guyana, St. Kitts and Nevis, Jamaica, Antigua and Barbuda, Dominica, and Belize rank with the first ten most indebted ones.

The accumulation of debt per se has important costs. The most obvious is the one in terms of foregone resources that could have been used for more productive uses. The case of Jamaica exemplifies this point. The functional classification of Jamaica's fiscal expenditures shows that public debt management amounted to 65% of the total which is much higher that the expenditure devoted to productive uses. Indeed social and community services which include education and health account for 16% of the total.

The accumulation of debt can also trigger unwanted depreciations in the exchange rate and thus increases in inflation and/or balance of payments crises. The standard description is well known.

Financial architecture proposals

There are a number of different proposals of how to reform the current system. This section examines the exchange rate regimes proposals. The exchange rate regime proposals include those of MacKinnon (1988), Williamson (1987 and 2004) and Moore (2004).

MacKinnon's concern focuses on the volatility of foreign exchange rates. Under floating exchange rates regimes, the exchange rate is akin to a forward-looking asset price. The movement in exchange rate reflects economic agents' asset portfolio preferences rather than trade in goods (physical assets or commodities). Asset portfolio preferences are variable and dependent on discrete events, news and in general expectations. This variability is a result of the uncertainty faced by economic agents regarding the future path of values of exchange rates. Thus MacKinnon concludes (Ibid, p.86):

"...I hypothesize that a floating foreign exchange market is socially inefficient because private foreign exchange traders face a huge gap in relevant information: the relative

future purchasing powers of national fiat monies...are highly uncertain. Thus the assessments of international investors...are unnecessarily volatile."

In addition the variability of the nominal exchange rate has important real effects. The existence of incomplete forward commodity markets prevents economic agents from hedging and protecting themselves from unwarranted exchange rate variations or choices that involve variations in important variables such as savings and investment on the basis of mistakenly perceived economic signals.

MacKinnon proposes a fixed exchange rate regime based on the absolute version of the Purchasing Power Parity theory (PPP). It states that a good must have the same price in different countries when corrected for the exchange rate. Letting P and P* denote the domestic and foreign price of a good or a composite good and e the spot exchange rate,

(1) $P = eP^* \Leftrightarrow de/e = dp/p - dp^*/p^*$

If $P>eP^*$, the price for the good in the domestic market exceeds that of the foreign market opening up possibilities of making capital gains by buying in the foreign market and selling in the domestic market. This process will bring about the required equality by changes in e or in P and P.

MacKinnon expects the price of internationally traded goods to be same when expressed in a given currency. Central Banks would then support this exchange rate alignment through monetary policy. As put by MacKinnon (Ibid, p. 97):

> "With the exchange rate known to be fixed into the indefinite future, international commodity arbitrage and mutual monetary adjustment would ensure convertibility to the same rate of commodity price inflation (preferably zero) in all three countries. Tradable good prices (PPI's) would then be aligned close to purchasing power parity and relative growth in national wage claims would eventually reflect differentials in productivity growth, as had been the case in the 1960s under the old Bretton Woods System of pegged exchange rates..."

Following earlier work on the subject of exchange rates, John Williamson (1988) formulates a target zone proposal. While Williamson accepts that the move from adjustable pegged exchange rates to floating exchange rates has increased their volatility, he also believes that floating exchange rates play important social functions. These include: (i) the reconciliation of different rates of inflation; (ii) facilitating payments adjustments; (iii) provide monetary flexibility to pursue interest rate targets; and (iv) to permit the absorption of a part of speculative pressures. The target zone exchange rate would at the same time limit the variability of exchange rates while allowing them to fulfill their 'social functions.'

The objective is to create a practical framework for policy coordination of the main industrialized economies. Williamson proposes that coordination be formulated according to two intermediate targets.

The first states that each of the said industrialized countries have "an endogenous target rate of growth of income y* which is equal to the estimated rate of growth of productive potential, g, plus some fraction of the inherited rate of inflation, pt-1 plus a positive function of the deflationary gap, d:

(2) $y = g + gp_{t-1} + jd \quad 0<g<1$ and $j>0$.

The second target is a real effective exchange rate target that would guarantee internal and external balance in the long-run. That is,

Williamson proceeds to specify three assignment rules that would satisfy the above targets. First, a Keynesian type fiscal policy would be used to achieve national targets for domestic income growth. Second, interest rate differentials would used to maintain the exchange rate variations within the specified targets. Third, the average level of the world interest rate would be revised according to whether the actual aggregate growth in national income deviated from the aggregate growth for participating countries. In short, fiscal policy's goal is to adjust nominal income. Interest rate differentials take care of exchange rate misalignment. Finally monetary policy determines aggregate income.

More recently Williamson (2004) has centered on the type of reforms that would allow the present global system to work more efficiently. Williamson has proposed a series of reforms to the global financial system that would permit the coexistence of globalization, free markets and country sovereignty. These include: (i) the establishment of reference exchange rates that would correct for exchange rate misalignment; (ii) to transform the World Economic Outlook published regularly by the IMF into a "normative assessment of how current account outcomes are progressing toward a set of normative targets agreed in the International Monetary Fund Executive Board" which are published and are subject to a public discussion; (iii) the adoption of an anticyclical policy stance by the IMF; (iv) the adoption of quantitative instruments when deemed appropriate such as the unremunerated reserve requirement; and (v) the creation of a new special drawing right (SDR).

Other economists have gone further and proposed the adoption of more radical solutions such as polarization. This is part of an on-going debate that has recently adopted the divided between hard pegs and soft pegs.

In practice the divide between fixed and floating exchange rate regimes has been nebulous in part due to the announced intentions of the authorities ('de jure' exchange rate regimes) and the actual course of events ('de facto' exchange rate regimes).[3] Despite

[3] Mundell 'Optimum Currency Areas" refined the debate between fixed and floating exchange regimes by establishing criteria to determine the proper geographical area for fixed and floating exchange rates.

all the arguments defending the virtues of free exchange rate regimes countries have tended, with a few exceptions, to adhere to a variant of fixed exchange rate regimes (See Table 8).

Table 8
The fear of floating

Country	Period	Probability that the monthly per cent change in nominal exchange rate falls within	
		+/-1 per cent band	+/-2.5% per cent band
United States $DM	February 1973-April 1999	26.8	58.7
Japan	February 1973 – April 1999	33.8	61.2
Australia	January 1984 – April 1999	28	70.3
Bolivia	September 1985- December 1997	72.8	93.9
Canada	June 1970-April 1999	68.2	93.6
India	March 1993 – April 1999	82.2	93.4
Kenya	**October 1993 – December1997**	50	72.2
Mexico	December 1994 – April 1999	34.6	63.5
New Zealand	March 1985 – April 1999	39.1	72.2
Nigeria	October 1986 – March 1993	36.4	74.5
Norway	December 1992 – December 1994	79.2	95.8
Peru	August 1990 – April 1999	45.2	71.4
Philippines	January 1988 – April 1999	60.7	74.9
South Africa	January 1983 – April 1999	32.8	66.2
Spain	January 1984 – May 1989	57.8	93.8
Sweden	November 1992-April 1999	35.1	75.5
Uganda	January 1992 – April 1999	52.9	77.9
Average a/		51.67	79.27
Standard deviation a/		17.83	11.41

a/ excludes the United States, Japan,
Source: Calvo and Reinhart (2000)

In the case of these economies the exchange rate regime debate in recent years has centered more precisely on the type of peg these economies should adopt, whether it should be a soft or a hard currency peg. The main characteristic of a hard peg is that it is bound by a rule tied to an internal policy goal, which is in general stable inflation. Hard pegs include currency boards and polarization. Soft pegs comprise a variety of regimes and allow intervention by the authorities to maintain a certain exchange rate.[4]

Soft and hard peg exchange rate regimes have advantages and disadvantages. Soft pegs allow greater flexibility in exchange rates and economic management without incurring in greater exchange rate volatility or higher inflation. The main advantages of hard pegs include stable inflation and low or inexistent interest rate and exchange rate risk. In addition as put forward by Mishkin and Savatano (2000), hard pegs "eliminate the time-inconsistency problem of monetary policy" and provide "simplicity and clarity, which makes them easily understood by the public." Securing these advantages in the long term requires the government to maintain a strict fiscal stance.

[4] These regimes include a crawling exchange rate band, a crawling peg, an adjustable peg and a managed float.

Contrarily soft pegs may not provide the necessary credibility to sustain a given exchange rate regime (Obstfeld and Rogoff, 1995). The exchange rate can be sensitive to changes in expectations and be responsive to monetary and non-monetary factors and thus be an aggravating factor to a process of economic instability. In addition a soft peg may not suppress the need for periodic readjustment thus undermining the very foundation of the peg. As put by Obstfeld and Rogoff. Ibid, p.85:

> Governments often feel that if they could pull off a sudden realignment "just once" and thereby put fundamentals right, they would thereafter enjoy the fruits of a credibly fixed rate, including exchange-rate certainty and domestic discipline. They are wrong. The factors that led to the last realignment remain and contain the seeds of the next one. No one can say for sure when it will occur, but its likelihood reintroduces both exchange-rate uncertainty and inflationary pressures –the very evils a fixed rate was supposed to guard against.

For its part hard pegs preclude the use of monetary policy and fiscal policy is completely pro-cyclical thus aggravating the fluctuations in the business cycle. More to the point, this type of regime severely limits the scope for Central Bank intervention in the form of the lender-of-last resort to mitigate the effects of liquidity shortages or financial distress in the economy. In short, as put by Eichengreen, 1996, p.184, hard pegs seek to sacrifice flexibility for credibility but in so doing, hard pegs may generate a rigidity within the system that is counterproductive to the continuation of the exchange rate regime.[5]

There are, *grosso modo*, five types of arguments underlying the dollarization debate. These are efficiency and stabilization; the seignorage problem; the lender of last resort function; the asymmetric character of economic fluctuations; and contracyclical economic policy.

The more recent analysis by Moore (2004) looks at dollarisation from another angle. While it stresses some of the known benefits such as lowering the risks incurred in international transactions and the improvement in the operation of the global trading system, it also recognizes the logical difficulties inherent in claiming that the move from a multicurrency to a single currency arrangement would reflect 'the optimality of a common world currency' (Ibid. p.634).

Moore views the main advantage of dollarization in the removal of the external constraint. As he puts it (Ibid., p.637): "When countries share a common currency, they become, from a monetary point of view, completely analogous to individual states or regions within a political federation. The magnitude of their current and capital imbalance, irrespective of whether they are deficit or surpluses, then becomes a matter of

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[5] As put by Eichengreen, ibid. p.184: "In a sense of course, this is the reason to have the currency board, which reflects a decision to sacrifice flexibility for credibility. But the rigidity that is the currency board's strength is also its weakness. A financial crisis that brings down the banking system can incite opposition to the currency board itself. Anticipating this, the government may abandon its currency board in fear that the banking system and economic activity are threatened."

indifference. Like states and provinces within a federal system, the external balance constraint vanishes completely. Within...a single monetary union, individual borrowers are granted credit provided that they can persuade lenders their particular projects are creditworthy...When the balance of payments constraint disappears, governments no longer have to gain the confidence of foreign lenders that future convertibility will be maintained indefinitely at the existing exchange rate." The suppression of the foreign exchange constraint also means the suppression of the bias to implement deflationary policies to maintain the external balance.

Plumbers and architects: A modern version of John Maynard Keynes' Clearing Union

The proposals discussed thus far center on changing current exchange rate arrangements or on introducing slight reforms to the current existing system. The message is that ultimately if free markets do not work as expected it is because they are imperfect. Thus to make markets work it is necessary 'to put sands in the wheels' or simply introduce some type of rigidity (say a nominal anchor in the system) or limit the space within which free market forces can move or propose the creation of a supranational authority that could resolve liquidity problems (such as Fisher's international lender of last resort). In other words they are proposals for 'plumbing' reforms that attempt "to put a patch on the current liquidity-leaking international financial system without altering its structural foundations" (Davidson, 2004, pp.591-592).

The proposals thus discussed are ultimately based on the acceptance of free market forces (with some caveats) and of market theory (by which is meant mainstream economic theory). In one or another form they develop their analysis on the basis of what Davidson terms the three main axioms of classical (i.e., mainstream theory). These are: (i) neutral money; (ii) the gross substitution axiom and (iii) the ergodic axiom.

Neutral money implies that changes in nominal variables do not affect real variables, say relative prices. In the case of the McKinnon proposal, PPP presumes the dichotomy between monetary and real variables. Yet, according to Williamson (1988, p.119), MacKinnon's analysis requires that monetary variables affect real ones.

The gross substitution axiom means that 'everything is a substitute for everything else.' This means not only that all markets must clear but also that the outcomes reflect relative scarcity of factors of production and commodities and ultimately are determined by the fundamentals or data of the system: preferences, endowments and technology. As a result when the market for any commodity clears the markets for factor inputs must also clear. Full utilization of output means also full utilization of capital and of labor (i.e., full employment).

The ergodic axiom means that 'the outcome at any future date is merely the statistical shadow of events that have already occurred: the future is written in today's historical evidence" (Davidson, 2002, p. 50). Or in other words, the future is simply a replica of the past.

The rejection of these axioms also leads to the rejection of the 'plumber solution' to global financial reform. Instead of simply providing patches to the existing financial architecture, the current system must be completely rehauled.

The Bretton Woods institutions that emerged following WWII were the product of a negotiation between the British and American authorities. The American proposal drafted by Dexter White was the one that formed the core of the financial institutions of post WWII. The British proposal drafted by John Maynard Keynes did not see the light of the day (only some parts of it were incorporated into the final Post WWII agreement).

Recently it has been reformulated by Davidson (2004) to fit the modern day financial conditions and proposed as an alternative and viable global financial architectural framework. The quotes below from John Maynard Keynes illustrate the spirit of his proposal:

> The idea underlying my proposals for a Currency Union is simple...to generalise the essential principle of banking...the necessary equality of credits and debits, of assets and liabilities'. CW, Vol. XXV, p.44.
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> 'The plan aims at the substitution of an expansionist, in place of a contractionist, pressure on world trade'. CW, Vol. XXV, p.74.
>
> 'The proposal differs from the existing state of affairs by putting at least as much pressure of adjustment on the creditor country, as on the debtor...The main point is that the creditor should not be allowed to remain passive. For if he is, an impossible task is laid on the debtor country'. CW, Vol. XXV, p.49.

Davidson proposals consists of eight provisos. The first two are the creation of a unit of account and reserve asset (the International Money Clearing Unit, IMCU) to settle international transactions and that creation of a clearinghouse. The IMCU would be held by central banks and not by the public. Each nation guarantees a one-way convertibility between the IMCU deposits at the ICMU and its domestic money. Third, the monies of all nations continue to function as means of exchange and payment. Fourth, the exchange rate between any nation's domestic currency and the ICMU is determined by the corresponding nation. Fifth, Davidson's proposal considers an overdraft system allowing the financing of productive international transactions. Sixth, the IMCU proposal introduces a trigger mechanism allowing the expenditure of excessive credit balances as a result of current account surpluses. Seventh, Davidson proposes a system to stabilize the purchasing power of the IMCU whereby requiring a fixed exchange rate between nations' local currency and the ICMU which would change reflecting changes in efficiency wages. Finally, countries that is at full employment and exhibits persistent external imbalance must reduce its standard of living by exchange rate devaluation.

Davidson proposal and in particular proviso 6 addresses the issue of resource transfers to developing economies. Proviso six contemplates the re-spending of excessive

credit balances on: (i) products of any other member of the clearing union; (ii) on new direct foreign investment projects; or on (iii) unilateral transfers.

Other authors that have proposed some resource transfer mechanism include Stiglitz (2003) that proposes a sort of equivalent of global money that would permit countries to free reserves to be spent on productive uses.

The relevance of the financial architecture proposals for smaller economies

The relevance of the financial architecture proposals for smaller economies is examined assuming that the binding constraint on smaller economies is the external constraint. The framework here used is that of Thirlwall's (1979) balance-of-payments constrained growth.

The balance-of-payments constrained growth model determines the rate of growth of an economy that is compatible with equilibrium in the balance-of-payments. This requires that exports and capital lows equal imports valued at current prices. Formally,

(3) $XPx + Fpf = e(MPm)$

Where,

Px = price of exports
X = export volume
F = real capital flows
pf = price of capital flows
E = nominal exchange rate
M = import volume
Pm = price of imports

In turn the volume of exports and imports are specified as constant elasticity multiplicative functions. Export volume is a function of the relative price of exports and international prices and of world income. In a symmetric fashion, import volume depends on the relation between import prices and the domestic price level and of domestic income. That is,

(4) $X = a(P_x/P_f e)^{\eta} Z^{\pi}$

(5) $M = b(P_m e/P_d)^{\varphi} Y^{\xi}$

where,

Pf = foreign prices of goods that compete with domestic export goods
Pd = domestic prices
Z = world income
Y = domestic income

π = income elasticity of demand for exports ($\pi>0$)
ξ = income elasticity for imports ($\xi>0$)
φ = price elasticity of demand for imports ($\varphi<1$)
η = price elasticity of demand for exports ($\eta<1$)

The specification of both equations follows the conventional approach known as the imperfect substitutes model. It is built upon the assumption that domestic and foreign goods are not perfect substitutes. And, by taking for granted an infinite elasticity of supply- the model claims that exports and imports are essentially demand-determined. It thus argues that the two main determinants of –say- imports are the importing country's income, the own price of imports, and the domestic price of locally produced tradable goods and services. Correspondingly, the main determinants of exports are the rest of the world's income and the price of export goods relative to the price of foreign made goods that compete with them in the international market. In addition, monetary illusion is typically assumed away and a zero-homogeneity restriction is imposed to guarantee that the foreign and the domestic price-elasticity of import (export) demand have the same magnitude in absolute terms.

Since in essence the model is a two-good model, it is generally assumed that the price of exports is equal to the domestic price (i.e., Px = Pd=P) and that the import price equal the price of foreign goods that compete with exports (i.e., Pf =Pm=P*). Expressing Eqs. (15), (16) and (17) in rates of change and defining a parameter, θ, as the ratio of the value of exports to that of imports, the basic balance-of- payments constrained model can be specified in the following four equations, where the logarithm of a variable is represented in lower case letters.

(6) $dp*/p* + dm/m = \theta(dp/p + dx/x) + (1-\theta)(df/f + dp/p)$;
(7) $\theta = px/p^*m$;
(8) $dx/x = \eta(dp/p - dp*/p* - de/e) + \pi dz/z$;
(9) $dm/m = \varphi(dp*/p^* + de/e - dp/p) + \xi dy/y$;

The solution to this four equation model allows to express the rate of growth of real output compatible with the dynamic expression of the balance of payments equilibrium (i.e., Eq. 3). Real output growth is a function of the initial export/import ratio, the growth rate of the world's real income, and the rate of growth of capital flows measured at constant domestic prices, and the real exchange rate. Formally,

(10) $ybpc = [\theta\pi dz/z + (1-\theta)(df/f) + (\eta\theta + \varphi + 1)(dp/p - dp^*/p^* - de/e)]/\xi$

Starting from Eq.(10) is generally assumed that the current account is initially equal to zero, that is $\theta=1$, the exchange rate is a constant and equal to 1 so that $de/e=0$ and domestic prices approximate foreign prices ($dp/p = dp^*/p^*$). In this way, the balance of payments constrained rate of growth is expressed as a function of the rate of growth of world income and the income elasticities for exports and imports,

(11) $ybpc = \pi(dz/z)/\xi$

Dividing both sides of Eq.(23) by the rate of growth of world income leads to express the ratio of domestic to world rate of growth as a function of the ratio of exports to import elasticities. That is,

(12) ybpc/(dz/z) = π/ξ

Equation (12) is known as Thirwall's Law. It indicates that if the ratio of elasticities is less (greater) than one, that is if $\pi<\xi$, the said country will run a balance of payments deficit (surplus) that it will have to correct through a reduction in its growth rate below (above) that of the rest of the world.

In so far as a financial architecture proposal allows countries to lift their external constraint, the proposal can be beneficial to smaller economies. If economies need not maintain external equilibrium then there is no reason to expect that the rate of growth of one economy relative to another will be determined by the elasticity parameters. This solution corresponds to the 'architectural solution.'

However, this solution does not eliminate the instability that can be generated within a market economy. The problem of external debt becomes one of internal debt. But this does not suppress the existence of financial fragility. Its essence which is the "volatility of the earnings of investment assets relative to cash commitments created by the liabilities issued to acquire them" remains forever present. Thus the limitations imposed by the global financial architecture are replaced by the limitations to growth of debt and of finance.