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Determinants of Debt Rescheduling in Pakistan

RIZWANA SIDDIQUI and REHANA SIDDIQUI

I. INTRODUCTION

Pakistan's total debt has reached to 115 percent of GDP in 2001 [Pakistan (2001)]; per capita debt exceeded per capita GDP. The outstanding stock of public debt was roughly 400 percent of government revenue in 1980 and it increased to 624 percent by mid-2000 [Pakistan (2001)]. It is the only country in South Asia, classified as "severely indebted low-income country" by the World Bank (2001). Debt servicing is more problematic than debt. It has been 2.5 percent of GNP during seventies and increased to 3.5 percent of GNP during eighties. In 2001, debt servicing consumes more than seventy percent government revenue and leaves less than thirty percent for every thing else [*The News* (2001)]. This increase in debt and debt servicing has affected creditworthiness of the country and raised the concern about its future growth prospects. The deterioration in all the indicators, like debt-export ratio, debt-GDP ratio, debt servicing to GDP ratio etc. raised the risk of default and increased vulnerability of the country to external and internal shocks. One possible way out is the rescheduling of debt to minimise total loss to creditor countries as well as subside the burden of debtor country. Pakistan's debt has been rescheduled many times during the last thirty years.

Rescheduling of debt has been the subject of substantial academic research.[1] International organisations and the lender countries may reschedule sovereign debt of countries for the following reasons: First, debt rescheduling may help to achieve global efficiency of resource use. Second, enforcing repayment contract may not be in the interest of creditors. Finally, it may help to achieve political objectives of the creditor countries [see Eaton (1990)]. Country specific analysis of factors that

Rizwana Siddiqui is Research Economist and Rehana Siddiqui is Senior Research Economist at the Pakistan Institute of Development Economics, Islamabad.

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[1]See for example Eaton (1990); Moghadam, *et al.* (1991); Berthelemy and Ann (1994); Moghadam (1995); World Bank (2001).

influence rescheduling of debt helps debtor country to opt for the policies to reduce the risk of default. In addition to minimising the risk of total loss, it may also help creditor countries in allocating limited resources among developing countries optimally and improve efficiency of resource use globally. However, the significance of various indicators, mentioned above, may vary across the countries. As mentioned by Moghadam, *et al.* (1991), "There may be no debt crisis, but rather a series of regional (*country specific*) debt crisis with different determinants".[2]

Empirical examination of debt crisis includes two types of indicators, i.e., economic or financial ratios and political factors. Some studies use financial ratios only while others use both types of variables to predict prospects of debt rescheduling for a country or region. To date, no study has been done to explore the determinants of debt rescheduling in Pakistan. This study includes both types of indicators to assess whether financial ratios or political variables or both affect country's ability/inability to meet the debt obligations and its prospects for rescheduling.

Plan of the paper is as follows. In the next section, debt situation in Pakistan is discussed. Section III describes debt rescheduling for Pakistan over last thirty years. Section IV describes methodology and specifies a model to determine the probability of debt rescheduling with respect to financial ratios and political factors. Section V contains results of model. Final section concludes the study.

II. THE DEBT SITUATION OF PAKISTAN

Pakistan's domestic and external debt has increased at an unprecedented rate in the 1990s. The result is that debt repayment imposed heavy burden on domestic budget and external account position. In 1954-55 debt was only USD[3] one million and by 1971-72 this figure reached USD 3766 million. Since then Pakistan's foreign aid inflow has been rising rapidly, per capita debt exceeded per capita GDP in 1997 for the first time. The stock of external debt was USD 15.5 billion in 1990-91 and it reached to USD 38.5 billion by the end of December 2001 showing an increase of 148 percent during the last ten years. This means more than one billion dollar was accumulated each year in the last decade of 20th century. In 2000-01, Pakistan's total debt, 55 percent foreign and 45 percent domestic, is 115 percent of GDP [Pakistan (2001)].

The debt servicing is the most worrisome part of the growing debt, in 1971 debt servicing (DS) as percentage of GNP was 2.6 percent. After first rescheduling this ratio declined to 2.3 percent in 1974-75. This ratio sharply increased after 1981 and reached to 4.3 percent in 1989-90 (see Table 1). But declined again to 2.7

[2]Italic Added.

[3]USD = United States Dollars.

Table 1

Financial and Political Indicators of Debt Rescheduling (Percentages)

Year	NT/GD	DS/GNP	DS/XGS	INT/EDT	GE/GDP
1971-72	70.00	2.6	34.30	4.45	23.82
1974-75	74.50	2.3	18.89	6.30	26.48
1979-80	60.27	2.5	19.61	7.39	25.86
1980-85	37.31	2.6	23.79	4.42	27.48
1989-90	47.40	4.3	26.99	2.62	29.17
1994-95	21.00	3.7	20.21	9.27	25.37
1999-00	–6.00	2.7	15.22	5.25	25.19
2000-01	6(E)	2.7	13.97	6.88	23.69

Notes: NT = Net Transfers; GD = Gross Disbursement. DS = Debt servicing; GNP = Gross National Product; XGS = Export Earnings; INT = International Reserves; EDT = Debt Outstanding; GE = Government Expenditure; GDP = Gross Domestic Product , FEE = Foreign Exchange Earnings.

percent during 1999-00 due to debt relief from Paris club and non-Paris club donors. Debt servicing as percentage of exports of goods and services fell during 1971-72 to 1979-80 from 34.3 percent to 19.6 percent. But it increased during the eighties very sharply and reached to 26.99 percent in 1989-90. The observed increase in debt servicing may be a result of shift in type of aid disbursed to Pakistan i.e. shift towards provision of project assistance instead of quickly disbursed programme assistance and shift in composition of aid from grants to loans and credits repayable in foreign exchange.[4] Due to a large debt servicing, there has been declining trend, in real terms, in net inflows to Pakistan. It was 70 percent of gross disbursement in 1970-71 and dropped to 25 percent in 1972-73. But after substantial rescheduling this ratio increased to 46 percent in the same year [Pakistan (1973-74)]. It rises again to 74.5 percent in 1974–77. In the later period, debt accumulated at very high rate. Due to large increase in debt and shift in type of aid, debt servicing increase and heavy burden of debt servicing in fact resulted in resource out flow in 1996-97, –1 percent of gross disbursements [Pakistan (2001)] and in 1999-2000 –6 percent of gross disbursement (see Table 2). After rescheduling of debt in 1999-2000 it increases again to 6 percent.

[4]It is not only the external debt that resulted in crisis, but also the domestic debt. This resulted in allocation for debt servicing in the federal budget for the current fiscal year 2001-02 is Rs 329.2 billion out of total revenue of Rs 453.8 billion, leaving only 27.36 percent of revenue for everything else *The News*, December 17, 2001.

Table 2

Indebtedness Indicators for South Asian Countries, 1999

Countries	EDT/ XGS	PVDS/ XGS	EDT/ GNP	PVDS/ GNP	DS/ XGS	INT/ XGS
Bangladesh	236	148	39	24	11	3
India	153	114	22	16	16	6
Nepal	220	122	59	32	8	2
Pakistan	312	226	55	40	26	10
Sri Lanka	139	103	62	46	8	3
South Asian Countries	156	122.78	26.5	20.15	13.1	5.4

Source: World Bank (2001).

Note: EDT = Debt Outstanding, XGS = Exports of Goods, PVDS = Present Value of Debt Services, DS= Debt Servicing, GNP = Gross National Product, INT = International Reserves.

Comparison of indicators of indebtedness across the South Asian countries shows that Pakistan lies in the category of severely indebted countries (see Table 2). Country is severely indebted if present value of debt service (PVDS) to GNP exceeds 80 percent or present value of debt service to exports exceeds 220 percent [World Bank (2001)] (see Table 2). Table shows that present value of debt service to exports and present value of debt service to GNP are lower than the critical value for all other developing countries.[5] Only Pakistan has present value of debt service to export greater than the critical value of 220 percent.

Table 2 also shows that Pakistan's total debt, as percentage of exports (EDT/XGS) is 312 percent highest in the region, Debt servicing (DS/XGS) is 26 percent of exports, which includes interest payment of amount 10 percent of exports. All these statistics show that Pakistan is severely indebted country in the region.

Public and external debt has been the major sources of imbalances in Pakistan. During the last decade, fiscal and current account deficit as percentage of GDP have been around 6.8 percent and 4.5 percent. This exposes Pakistan's poor budgetary and current account situation. We need to generate more revenue and expand exports beyond the 8 billion to meet debt repayment requirements. Can we overcome this situation without taking long-term aid in the form of Extended Structural Assistance Facility (ESAF) from IMF and World Bank Consortium Aid, while in spite of frantic efforts like increase in energy charges resulting in higher

[5]Critical value of PVDS/XGS and PVDS/GNP are 80 percent and 220 percent, respectively.

fuel price as compared to world prices, revenue earnings have not improved yet. From this we may conclude that the rescheduling of debt payments may be the possible resort.

III. DEBT RESCHEDULING IN PAKISTAN[6]

Pakistan's debt is rescheduled several times during seventies, eighties and nineties. Table 3 presents descriptive statistics for the rescheduling of Pakistan's debt during 1971-72 to 2000-01. After the separation of East Pakistan (present Bangladesh), there was slow down in growth of domestic product. Investment and saving rate were very low. In addition, large balance of payments problem, debt and debt servicing aggravated the problem. Creditors agreed to reschedule debt to avoid loss of principal through default on one hand and subside the debt burden of the country on the other hand.

There were four rescheduling in seventies and one in early eighties (see Table 3). A moratorium on the annual debt servicing was granted to Pakistan till early eighties in view of the precarious balance of payments position of the country as well as Pakistan's acceptance of servicing obligations of debt incurred for the benefit of areas in Bangladesh. In May 1972, the consortium countries provided debt relief of USD 233.8 million for period 1971–73 and short-term debt rescheduling arrangements were also made. This was followed by second short term arrangement for 1973-74 of USD 107.2 million. Non-consortium countries provided debt relief during the same period. These arrangements rescheduled about 56 percent of debt servicing during 1971–74. The rescheduled debt had to be repaid over period of 3 years at interest rate not exceeding the weighted average of 5 percent. Another rescheduling of USD 650 million was made for the period 1974–78. This debt relief arrangement expired on June 30,1978. Pakistan had to resume full debt service payments despite the balance of payments difficulties, but on the request of Government of Pakistan, debt relief of USD 136.3 million and USD 90 million was given during 1978-79 to 1979-80 [Pakistan (1980-81a)]. Third request for debt rescheduling was accepted in 1981 and debt relief of USD 232 million was provided. Relief in the form of moratorium has gradually shrunk from 38 percent of annual maturities in 1974-75 to 12 percent in 1979-80. During 1985–88, debt of USD 11 million was forgiven. [World Bank (1994).] Recently, debt of amount USD 3.8 billion is rescheduled in 1999–2001. After September 11, Paris club rescheduled bilateral debt of USD 12.5 billion and time period is 38 years.[7] It will provide a relief for country's external debt problem and fiscal support for programmes other than debt servicing.

[6]Pakistan (a) 1982-83.

[7]*The News*, December 17, 2001.

Table 3

Amount of Debt Rescheduling in Pakistan

Period	Amount in Million of US Dollars
1971-73	233.766
1973-74	107.166
1974-78	650.0
1977-78	226.303
1980-82	232.0
1985-88	11*
1998-99	1987.63
1999-00	1241.70
2000-01	617.28
December 2001	12500

Source: GOP, State Bank and *The News* Dec. 17, 2001. *Debt forgiven.

Moratorium provides temporary relief to country to revive the economy. During 1972–75 average investment rate was about 14.7 percent but this rate increased to 21.1 percent after first rescheduling (Table 4). Then it again fell to 18.7 percent. During 1985–88 this ratio again increased to 19 percent. After that this ratio shows continuously declining trend. Growth rate of GDP shows increasing trend during the seventies and eighties when debt was rescheduled, but it shows declining trend during nineties when net transfers have been declining.

Table 4

Economic Indicators

Year	GDPg	I/GDP
1971-72	1.23	5.79
1972-75	5.11	14.72
1975-80	5.34	21.09
1981-85	6.69	18.71
1986-90	5.60	19.14
1991-95	5.07	20.12
1996-00	4.22	16.57
2000-01	2.60	14.20

The situation is aggravated by energy crisis, increase in prices of essential capital and intermediate goods, decline in prices of primary export products, increase in world interest rate, inflation and recession in the developed market economies. The combination of these factors led to a general deterioration in the external payments position of non-oil exporting developing countries and forced many of them, including Pakistan, to borrow heavily or reduce their reserves. High debt servicing hampered Pakistan's development efforts and led to a marked increase in the volume of internal and external indebtedness. Domestic financing of sovereign debt became extremely difficult owing also to low saving rate and low investment rate. Most recently, after eleven September situation has worsened i.e., inflow of Afghan refugees.

Pakistan needs an integrated economic revival and debt reduction strategy. A committee was constituted to design a strategy to reduce debt burden and to suggest an efficient debt management system. Committee prepared a debt reduction strategy (see Table 5). It suggests seven strategic points to subside the debt burden and meet the challenge ahead. It was recognised by the committee that the external financing challenge requires large-scale exceptional assistance, additional debt relief from the IMF, World Bank, ADB, and other bilateral donors, large privatisation receipts, non-interest current account surpluses to meet debt service payments and to increase foreign exchange reserves.[8] The strategy will be successful only if it meet the goals i.e., generate a surplus in the non-interest current account of the balance of payment of nearly USD 1 billion annually or 1.5 percent of GDP, generate export surplus, normal disbursement of medium and long term loans of USD 6.2 billion will continue, net foreign private investment of USD 2.5 billion and assistance of USD 6 billion from IMF, World Bank and ADB. In addition a three-year poverty reduction and growth facility (PRGF) is necessary to obtain USD 6 billion exceptional assistance. Theses are all dependent on international agencies. Despite all these inflows, there is a need that Government should mobilise at least USD 3 billion from privatisation proceeds. Trade finance should be USD 0.3 billion. In addition to all these efforts, there is a need for debt rescheduling from Paris club and non-consortium debt countries of USD 5.1 billion at least. Table shows that USD 20.6 billion (i.e., 77 percent) of foreign exchange inflows will be used for debt servicing, USD 3.8 billion (i.e., 14 percent) to increase reserves, and least possible short fall of USD 2.3 billion (i.e., 9 percent). This shows that debt reduction strategy concentrate on inflow that will result in high debt burden in future, as 77 percent of the inflow will result in higher debt in future. Furthermore the short fall may be higher depending on future political and economic situation. However, the information on parameter on which these projections are based are not outlined in the strategy paper. Thus it is difficult to determine the extent of deviations in these estimates.

[8]Most preferable option is "debt forgiven".

Table 5

Sources and Uses of Foreign Exchange an Illustrative Scenario: July 2000–June 2004 (US $ Billion)

Sources		Uses	
1. Non-Interest Current Account Surplus	3.8		
2. Normal Disbursement of Medium and Long Term Loans	6.2	Debt Service	20.6
3. Net Foreign Private Investment	2.5	Payments	
4. Rescheduling from Paris Club and Non Consortium Debt Countries	5.1		
5. Privatisation Proceeds	3		
6. Exceptional Quick Disbursing Assistance from IMF/World Bank/ ADB	6	Increase Foreign Exchange Reserves	3.8
7. Trade Finance	0.3		
8. Least Possible Short Falls	–2.3		
Total	24.4		24.4

Source: Pakistan (2001b) "A Debt Reduction and Management Strategy". Report of Debt Reduction and Management committee. Finance Division.

IV. METHODOLOGY

We use qualitative response model to determine the probability of debt rescheduling for Pakistan. The dependent variable is categorical and defined as a discrete, dichotomous random variable. It assumes a value of '1' if debt is rescheduled in period *t* and '0' otherwise. The model specifies financial as well as political factors determining the probability of rescheduling. These independent variables may be either continuous or discrete but they are assumed to be non stochastic.

Function including financial ratios and political variables, for which data are available, is defined as follows:

$$.y_t = \alpha_o + \sum \alpha_i X_{it} + \sum \alpha_j Z_{jt} + \upsilon_t$$

Where *Yt* is dichotomous variable

Y_t = 1 if debt is rescheduled in given period
= 0 other wise

X_i = financial ratios where i =1,2,3,4

$X1 = DS/ XGS$
$X2 = DS/ GNP$

$X3 = INT/EDT$

$X4 = DS/GE$

Where

DS = Debt Servicing, *XGS* = Exports, *GNP* = Gross National Product, *INT* = International Reserves, *EDT* = Total Debt, *GE* = Government Expenditure.

Zj = Political variables

Where $j = 1, 2$.

$Z1 = GE/GNP$

$Z2 = DEF/GE$

Where *GE* = Government Expenditure.

DEF = Defense Expenditure.

Following, earlier empirical studies two types of factors, financial ratios and political factors, as explanatory variables determine the probability of rescheduling in the country. In the past some studies have focussed on economic indicators or financial ratios like debt servicing to GNP, debt servicing to exports of goods and services (DS/XGS), external reserves to debt out outstanding (INT/EDT).[9] These indicators measure the burden of debt payments relative to a country's income or paying capacity as well as creditworthiness of any country or region.[10] First two ratios, *X*1 and *X*2 are expected to affect likelihood of debt rescheduling positively while *X*3 measure liquid assets and is hypothesised to be negatively associated with the probability of default and to probability of rescheduling. Lastly, *X*4 measures the debt burden on government budget.

There is much criticism on the studies, which include only financial ratios as determinants of rescheduling and ignores political factors. It is argued that in some cases economic needs motivate borrowing; while in other cases it may be political factors or may be both. Economic mismanagement and/ or political motivation are considered basic causes of current debt crisis [see for example, Eaton (1990) and Pakistan (2001)].

A number of studies acknowledge the importance of political factors in accumulation as well as for rescheduling of debt. Political decisions to borrow, to distribute resources among alternative uses and most importantly to service debt are as important as economic capability. The argument is summarised by Dornbusch (1989) as: "… domestic policies (including political decisions) were an important, often the main, influence in bringing about the large accumulation of debt". The studies incorporate this factor as a measure of government policy in the analysis. The

[9]See Moghadam(1995) and Moghadam, *et al*. (1991).

[10]See, for example, Eaton (1990); Moghadam, *et al*. (1991) and Moghadam (1995).

study by Moghadam (1995) suggests that larger the public sector relative to total economy, the greater the probability of default. Therefore, ratio of Government expenditure to GNP measuring the size of the government is also included in the analysis. Positive correlation is expected showing i.e., large size of government sector indicates high influence of political motives resulting in greater probability of default. In other words, the political decision of increased government role in the economy carries the risk of reduced perceived credit worthiness.

The literature also suggests that in politically unstable regions government may acquire debt to provide national security [see Moghadam (1995)]. Indebtedness of any country may increase when governments borrow to purchase weapons to combat the internal or external security problems. Thus, defense expenditure as a percentage of government expenditure is used to measure instability of any government. This study includes both factors in econometric analysis of debt rescheduling in Pakistan and test the hypotheses: *which factors, financial, political, or both are important determinants of debt rescheduling in Pakistan.*

Annual data for all variables are collected for the period 1972 to 2001 from different issues of *Economic Survey* [Pakistan (a)], Annual reports of State Bank of Pakistan [Pakistan (b)], and Global Development Finance [Pakistan (c)].

V. RESULTS

Many probit model specifications are estimated but results of only three selected regressions are reported in Table 6. Model 1 includes three financial ratios, DS/XGS, DS/GNP, INT/EDT to explain probability of debt rescheduling in Pakistan. Second model includes political variable GE/GNP in addition to financial ratios. Third model includes DS/GE instead of INT/EDT. The joint significance of equations is measured by chi-squared statistics and all the equations are significant at one percent level.

All the three model show that financial ratios have expected sign and significant at 5 percent or 10 percent level. DS/XGS measures the ability of repayment of debt and credit worthiness of any country. The results show that DS/XGS has significant positive correlation with the probability of rescheduling in case of Pakistan. This finding supports the results in the previous studies i.e., as DS/XGS goes up, financial institutions reschedule debt to avoid total loss in case of default.

DS/GNP measures the burden of debt payments relative to a country's income. It was expected to effect probability of rescheduling positively, because as burden increases the probability of default increases so the lenders tend to reschedule the debt. The estimated coefficient of the ratio, DS/GNP, has expected sign and is statistically significant.

Table 6

Results for Probit Function

Variables	Model 1	Model 2	Model 3
Constant	32.6	46.22	94.24
	(1.81) **	(1.73) **	(2.11) *
Financial Variables			
DS/XGS	0.76	0.80	1.17
	(1.81) **	(1.67) **	(2.05) *
DS/GNP	7.15	8.0	21.34
	(1.93) **	(1.72) **	(2.14) *
INT/EDT	–0.71	–1.22	–
	(1.89) **	(1.81) **	
DS/GE			–7.56
			(2.04) *
Political Factors			
GE/GNP	–	–1.14	–3.5
		(1.59)	(2.11) *
Chi^2	2.66[a]	25.63 [a]	22.05[a]

[a] Significant at 1 percent level. *Significant at 5 percent level. ** Significant at 10 percent level.

INT/EDT is a measure of liquid assets and is hypothesised to be negatively associated with the probability of default and negatively correlated with rescheduling of debt as well. The results show that it has correct sign and is statistically significant at 10 percent. This implies that the higher the INT/EDT, i.e., the larger is liquidity that a country possess, the lower is the probability of negotiation of the rescheduling of country's debt.

In the second model we included Political variable in addition to financial ratios. The results show that financial ratios still have significant impact on rescheduling and have expected sign but GE/GNP does not affect debt rescheduling significantly.

Third model includes DS/GE instead of INT/EDT ratio in addition to other financial ratios. This variable has negative sign. DS/GNP and DS/XGS have expected signs and are statistically significant. But GE/GNP still has negative sign, which is not as it is found in previous studies for Latin America and Carribean. The study by Moghadam (1995) shows that the probability of debt rescheduling increases with increase in GE/GNP for Latin America and the Caribbean but not for Africa. In Latin American countries failure of the private sector enforced government to fill the gap for sustainable economic growth resulting in rising fiscal deficit. In case of

Pakistan, in 1990s, Pakistan opted for trade liberalisation and structural adjustment policies and reduced subsidies and started denationalisation and privatisation process, which is expected to stimulate growth, and reduce government intervention and probability of rescheduling. Furthermore, the liberalisation and structural adjustment programmes resulting into more resource inflow from multilateral sources, reducing the probability of default and consequently rescheduling.

We find some evidence for Pakistan that diverge from the results obtained in earlier studies of rescheduling.[11] In third model we included political variable defined as size of public sector relative to size of the economy, which effects probability of rescheduling negatively. This result is somewhat puzzling, and needs in-depth analysis.[12] DEF/GE was not statistically significant we dropped from the equation.

Since debt rescheduling is not done for most of the South Asian countries, no earlier studies provide comparable evidence. Comparison of the results of this study with the results of empirical studies of other regions, either for all developing countries or for other group of countries, i.e., Latin American or Caribbean countries etc., shows that the financial ratios are most important factors determining the likelihood of rescheduling.

Thus, our results, like the empirical studies for other regions, show that financial ratios i.e., debt servicing relative to exports of goods, ratio of debt servicing to GNP and INT/EDT or DS/GNP are significant and robust determinants of rescheduling in Pakistan.

VI. CONCLUSION

Pakistan's debt is rescheduled many times during the last thirty years. The study estimates several probit model specifications to assess the impact of financial and political indicators on likelihood of debt rescheduling in Pakistan. Paper concludes that financial ratios, i.e., debt servicing relative to exports, ratio of debt servicing to GNP and ratio of international reserves to debt are significant and robust determinants affecting the probability of debt rescheduling in Pakistan. This evidence is consistent with expectations.

INT/EDT is significant and have negatively associated with rescheduling of debt like in previous studies. This implies that international reserves are important to meet their debt obligations. The policy emerge from the analysis is to keep the positive perceptions of creditor countries for debtor country's credit worthiness, debtor country must maintain their assets so as to maintain adequate international reserves to meet the debt servicing obligations. However, the role of government is

[11]Moghadam (1995).

[12]We intend to decompose the government expenditure and see its impact on probability of default in another study.

not unambiguous and needs in-depth analysis. As all the findings are not consistent with the previous findings. So creditor must examine country specific determinants of default.

In Table 4 we have seen that after each rescheduling of debt, investment rate increased indicating that current debt rescheduling may help to promote growth.[13] However, expansion of industrial and agricultural output, to enable country to generate more revenue and exportable surplus, is needed to increase the credit worthiness of the country.

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[13]If aid does not displace private investment [White (1993)].

Comments

Debt rescheduling belongs to the relatively unexplored aspects of debt management both theoretical and empirical. In case of Pakistan, the paucity of literatures on the subject has been critical and for that reason, the efforts of the authors namely Rizwana Siddiqui and Rehana Siddiqui to undertake empirical analysis of debt rescheduling for Pakistan must be appreciated.

The stock of public debt in Pakistan with a substantive component of the external debt has assumed alarming proportions due to profligacy of the successive governments, whether democratically elected or militarily imposed. The stock of debt generates flows in the form of debt servicing, which appear as annual liabilities in the current budget as well as in the current account of the balance of payments. The haemorrhage of public sector resources on account of debt servicing has emerged as the principal source of fiscal deficit of the country and a major challenge for macroeconomic stabilisation and growth management. The authors have discussed in detail the debt situation in Pakistan thus justifying the choice of the theme for research.

The authors have comprehensively analysed the variations in some of the important parameters related to debt servicing for the period 1971-72 to 2000-01. These parameters include Net Transfers to Gross Disbursement (NT/GD), Debt Servicing to GNP (DS/GNP) and Debt Servicing to Export Earning (DS/XGS) ratios etc. Referring to Debt Servicing to Export Earning (DS/XGS) ratio, the authors claim: Most of the time the ratio shows increasing trend in period of rescheduling. This conclusion needs a careful scrutiny. The authors have not given any explanation of the inverse relationship between DS/XGS and the rescheduling of debt. If the ratio DS/XGS generally shows a rising trend following the debt rescheduling, it shows that debt rescheduling has a limited impact in reducing the burden of debt or debt servicing. However, a more rigorous analysis is required on this relationship.

The theme of the paper raises a fundamental question: Is rescheduling of the external debt amenable to a defined and predictable behaviour? Is this behaviour sufficiently determinate to be captured through regression analysis based on Probit techniques or related econometric methods?

The debt rescheduling experience of Pakistan during the period 1971–73 to 2001-02 fails to indicate any systematic pattern both in terms of its timing and the

amounts rescheduled. The essential feature of all rescheduling episodes for Pakistan relates to the discretion of lending countries and institutions rather than any rational justification based on specific economic criterion.

The economic history of various developing countries clearly shows that the disbursement of external debts and grants by the lending countries on bilateral and multilateral basis as well as the rescheduling of debt are linked with political motives, economic expediencies and loan-related conditionalities. The rescheduling of external loans is rarely determined by financial parameters such as Debt Servicing/Earnings, Debt Servicing/GNP, Reserves/Debts or Debt-servicing/ Government Expenditure ratios.

The above conclusion can be verified by the quantum of debt rescheduling for Pakistan which has varied from $234 million in 1971–73 to $650 million in 1974–78 and from $11 million in 1985–88 to $1988 million in 1998-99 and $12,500 million in 2001-02. These rescheduling events and amounts can be linked with non-economic considerations or major political events such as change of political regimes (incidently, military regimes in Pakistan have generally received above average external resource inflows as well as debt reliefs). Broadly speaking, the political agenda of lenders associated with loans and their rescheduling for recipient countries including Pakistan remains esoteric and economists cannot capture this agenda in their Probit models, however well-devised.

To determine the probability of debt rescheduling, the authors have used the qualitative response models where the dependent variable is categorical and defined as a discrete, dichotomous random variable assuming value of '1' for period debt was rescheduled and '0' otherwise. The authors claim that many Probit specifications were estimated but results of only three regression equations are reported in the paper. The choice of three regression equations/models out of 'many' models exposes the limitations of the econometric methods as a tool of analysis whether used for qualitative or quantitative hypothesis testing. It would have been interesting if some of the models which were estimated but excluded from the paper were also given to provide a comparative and comprehensive view of the model specification and the results thereof.

The practice of reporting only the "chosen" models though not uncommon in econometric research, highlights the dichotomy between the theoretical foundations of the models and empirical choices made by the authors to test the theory. Paradoxically, however, out of three reported models, the co-efficients of only one model i.e. Model 3 are significant at the traditional 5 percent level of significance while the co-efficients of other two models are significant only at 10 percent level. That clearly shows that the basic hypotheses of the paper withstand the common econometric tests only tenuously. Furthermore the failure of the authors to report the

number of observations and the degrees of freedom for each equation further reduces the usefulness of the regression analysis to deduce plausible results about debt rescheduling in Pakistan.

Aqdas Ali Kazmi

The Planning Commission,
Government of Pakistan,
Islamabad.