

Foreign Trade Regime and Savings in Pakistan

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1. INTRODUCTION

Without generating high growth rates of national income, a country cannot make a sustained attack on poverty, unemployment, and other economic problems. Developing countries have, generally, pursued the goal of rapid economic growth with the help of industrialisation. In this regard, an optimal structure of the industries enables a country to experience 'sustainable' economic growth. Countries adopt various trade strategies to allocate resources to their optimal use in order to exploit their industrial potential. Developing countries, including Pakistan, have adopted the import-substituting (IS) trade strategy to foster industrialisation.¹ But the disillusionment with the IS strategy and its results is increasing over time. Contributing to this trend is the remarkable increases in growth rates by many countries that have shifted to an export-promoting (EP) trade strategy. At the same time came a fundamental question of the adequacy of economic growth itself. That is to what extent the economic growth under the IS strategy has given rise to the unfavourable results with respect to employment, capital accumulation, and income distribution. Analysis of these effects presents a tall order and we do not go that far in their evaluation. In this study we restrict ourselves to the question how various trade regimes are related with savings. The nature of this relation is somewhat complex. The complexity follows mainly from the multiplicity of possible linkages between trade regimes and savings.²

In particular we test: First, the argument put forward by the proponents of the restrictionist exchange control regime that while the IS regime creates static inefficiencies, yet it offsets inefficiency through its beneficial effects on capital

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¹Commercial policy, industrial policy, exchange rate policy, and sometimes fiscal policy (including production subsidies, credit subsidies, wage subsidies, and tax holiday) are instruments of an import-substituting trade.

²Intuitively, the link between savings and trade regime can be established through the changes in income distribution (functional or sectoral) associated with the trade regime.

formation which can ultimately contribute to rapid economic growth see Nurkse (1959). Second, whether external resources substitute (complement for) domestic savings under various trade regimes.

II. AN OVERVIEW OF TRADE REGIMES IN PAKISTAN

Using the trade-bias (EER_M / EER_X) ratio reported in the Table 1 we divide the total period 1959-60 to 1987-88 into three sub-periods: 1959-60 to 1970-71; 1971-72 to 1975-76; and 1976-77 to 1987-88.

The first sub-period (1959-60 to 1970-71), although started with a liberalisation policy, can be characterised as the most stringent sub-period. This regime started with the reduction and eventually elimination of export taxes. Later on the export bonus scheme was introduced. These measures resulted in a considerable reduction in export-bias. On the other hand, the increased availability of foreign exchange through foreign aid and a greater willingness to rely on market mechanisms rather than administrative controls led to an easing of quantitative import restrictions during this period. Nevertheless, the government was restricting a major proportion of imports through its licensing policies. In an effort to relax direct controls, in 1964, a "Free List" of goods which could be imported without an import license was introduced, but after the 1965 war with India the number of commodities on the free list was drastically reduced which marked the beginning of slackness in liberalisation [see the Table].

The second sub-period (1971-72 to 1975-76) covers the years of liberalisation when the entire trade-control system was overhauled. The export bonus scheme was abolished, tariff rates were lowered on intermediate and capital goods, the degree of 'cascading' tariff in the tariff system was reduced, and the rupee was devalued by 56 percent. With the exception of tax rebates and export financing all export subsidies were withdrawn. Instead export duties were imposed on a number of products. Subsequently, in order to have a unified exchange rate for exports, export duties were gradually eliminated which made the regime least discriminatory against exports. In addition to these policy measures the import licensing system was simplified; all the permissible imports were placed on either the "Free List" or the "Tide List".

All these measures created a regime that was moderately outward-oriented.

In the third sub-period (1976-77 to 1987-88) the rupee once again became overvalued after the appreciation of the U.S. dollar to which the currency was pegged. Instead of devaluation of the rupee, the government resorted to export subsidies and quantitative restrictions on imports to manage the balance of trade. Although the number of products on the free list change a little, licensing

Table 1
Effective Exchange Rates of Exports and Imports

Years	EER_M	EER_X	EER_M / EER_X
1959-60	11.13	7.85	1.42
1960-61	11.16	7.98	1.40
1961-62	11.22	7.92	1.42
1962-63	11.50	7.61	1.51
1963-64	11.90	7.63	1.56
1964-65	12.88	8.13	1.58
1965-66	13.39	8.17	1.64
1966-67	13.40	7.75	1.73
1967-68	14.07	7.80	1.80
1968-69	14.75	8.23	1.79
1969-70	14.77	8.40	1.76
1970-71	14.94	8.92	1.67
1971-72	15.08	9.73	1.55
1972-73	15.42	10.69	1.44
1973-74	14.63	10.19	1.44
1974-75	12.70	9.35	1.36
1975-76	13.26	10.76	1.23
1976-77	14.71	11.72	1.26
1977-78	14.77	11.63	1.27
1978-79	14.66	10.79	1.36
1979-80	15.13	9.75	1.55
1980-81	15.34	9.83	1.56
1981-82	15.25	10.59	1.44
1982-83	16.61	11.91	1.39
1983-84	18.95	13.51	1.40
1984-85	20.96	14.34	1.46
1985-86	23.27	15.32	1.52
1986-87	24.85	16.27	1.53
1987-88	25.23	16.35	1.54

Source: [Dorosh (1988)].

procedures were tightened. Different duty rates were imposed for commercial and industrial users. This period can be characterised as the one where the anti-export bias was on the rise. The government tried to correct the over valuation in the exchange rate by adopting the managed float exchange rate policy in 1982. During the 1980s, there was also some rationalisation of the tariff structure, including reduction in the maximum rate of duty, decrease in imports exempted from tariffs and lower duties on some items, particularly consumer items, which considerably reduced the dispersion in the tariff structure. However, due to the imposition of import surcharge, *iqra* surcharge and import license fees, the average effective tariff increased significantly during this period which made the regime relatively restrictive see Kemal (1991). Despite some corrective measures on the whole the trade regime between 1976-77 to 1987-88 remained relatively restrictive.

III. TRADE REGIME AND SAVINGS BEHAVIOUR

We follow [Bhagwati (1978), pp 127-181] to estimate the relationship between trade regimes and savings. In fact he has tested the hypothesis proposed by Nurkse (1959). Unlike Bhagwati we use additive and multiplicative dummy variables to determine whether any structural or behavioural shift in savings took place in different trade regimes.

We begin our estimation with the introduction of intercept dummies for all the three regimes to see any structural shift which may have taken place in various regimes, but the estimates of intercept dummies turned out statistically insignificant.³ Next we introduce slope dummies to see a shift in marginal propensity to save (MPS). These estimates are reported in Equation (1)⁴

$$S_t = -828.46 + 0.10 Y_t + 0.05 D_1 Y_t + 0.03 D_2 Y_t \dots \dots \dots (1)$$

$$(-1.27) \quad (9.98) \quad (3.04) \quad (3.06)$$

$$\bar{R}^2 = 0.84, F = 51.54$$

where, S_t = Gross Domestic Savings;⁵ Y_t = GDP (at f.c.); $D_1 = 1$ for 1959-60 to

³Due to the space limit we could not report these results.

⁴Ideally we should have applied a simultaneous technique but such a technique require the complete specification of the underlying model. Our objective here is not so much to derive precise results but is to obtain some useful insights from the relationship between saving and trade regime. Moreover, we deal here only with the real sector of the economy. We use real magnitudes, though in a more elaborate model the impact of monetary factors, such as inflation, interest rate, etc., should be brought in.

⁵Gross Domestic Saving = Investment - External Resource Flow. External Resource Flow = Imports - Exports. All the data used in the study are in constant prices of 1959-60 and are obtained from Government of Pakistan (1991).

1970-71 and 0 otherwise; $D_2 = 1$ for 1971-72 to 1975-76 and 0 otherwise.

The results reported in the estimated Equation (1) show that when Pakistan pursued mostly IS policies during the Sixties, MPS was the highest, i.e. 0.15; when the trade regime was moderately liberal the MPS fell to 0.13; and when the trade regime became once again anti-export the MPS did not rise from the position of 0.13, in fact it fell to 0.10.⁶ From these estimates we can conclude that Nurkse's hypothesis was partially true: during the 1960s IS policies helped in realising a high savings propensity, on the other hand, IS policies in the presence of a flexible exchange rate did not help in increasing the propensity to save during the period 1976-77 to 1987-88. Based on these results we cannot argue convincingly that the restrictive IS policy always led to a higher saving propensity in Pakistan.

Hitherto, we have postulated saving as a function of income alone. It is also argued in the literature that saving is a function of domestic expenditure rather than income see Dornbusch (1980). This line of argument enables us to introduce the effects of foreign capital inflow on domestic savings. In assessing this argument further we also introduce remittances to examine their role in shaping up the savings behaviour in Pakistan. We can write the new saving function as.⁷

$$S_t = a_0 + a_1 Y_t + a_2 F_t + U_t \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (2)$$

Where, F_t = Foreign Capital Inflow and Domestic Expenditure = $Y_t + F_t$,
Estimates of Equation (2) are presented in Equation (3):

$$S_t = -566.69 + 0.14 Y_t - 0.87 F_t + 0.79 D_1 F_t + 0.08 D_2 F_t \quad \dots \quad (3)$$

$(-1.23) \quad (12.49) \quad (-7.37) \quad (3.32) \quad (0.43)$

$$\bar{R}^2 = 0.93, F = 90.33$$

From Equation (3) it can be noted that foreign capital inflow to Pakistan has adversely affected the savings efforts under all the trade regimes. Regime-wise shifts in the saving propensity show that foreign capital inflow has substituted the domestic savings least when the country was pursuing IS policies. For the trade liberalisation regime one can notice a higher substitution between foreign capital inflow and domestic savings. However, the coefficient is statistically insignificant. In the third trade regime, one can see even a bigger substitution between domestic savings and foreign capital inflow. Such a pattern of results refrains us from

⁶We have also estimated all the saving functions with the log-linear specification and using per capita variables. These estimates did not perform better than the reported results. Due to space restrictions we do not report these results.

⁷Equation (2) corresponds with a consumption function $C_t = a_0 + a_1 (Y_t + F_t)$ when $a_1 = (a_2 + 1)$.

saying anything conclusive about the substitutability between foreign and domestic savings in various trade regimes. Nevertheless, a couple of comments on the low level of coefficient in the first trade regime are in order: (i) this was an early period of foreign capital inflow and the burden of debt servicing was not using up the domestic resources but it was the beginning of 'go easy' on domestic saving and (ii) after the Indo-Pak war of 1965 foreign aid was suspended, consequently the country was forced to manage its resource gap through its internal resources.

Besides, the external resource flow we have also tried worker's remittances in the saving function, however it turned out to be statistically insignificant.

A Decomposition (Private vs Public Saving)

In order to see whether a decomposition of savings might provide some additional insights we decompose total domestic savings into private and public savings. Estimated saving functions for the public and private sectors are in Equations (4) and (5):

$$S_t^{pu} = 4384.6 - 0.06 Y_t' - 0.04 DY_t' \quad \dots \dots \dots (4)$$

(4.44) (-4.53) (-3.10)

$$\bar{R}^2 = 0.54, F = 10.24$$

where, S_t^{pu} = Public saving (\equiv Public revenue – Public Non-Development Expenditure), $D = 1$ for 1971-72 to 1975-76 and 0 otherwise.⁸

$$S_t' = 5054.0 + 0.16 Y_t' + 0.07 DY_t' \quad \dots \dots \dots (5)$$

(-3.64) (7.91) (3.83)

$$\bar{R}^2 = 0.80, F = 33.71$$

where, S_t' = Private Savings = Gross Domestic Saving – Public Saving.

Estimates in Equations (4) and (5) show that the public sector is a dissaver sector of the economy. All the savings in the economy originate from the private sector. Since the data for the 1960s are not available, we cannot generalise these results for various trade regimes. However, some important points do emerge from these results. Marginal propensity to save for the public sector was -0.10 in the first half of the 1970s which has improved to -0.06 in the subsequent period. That is during the relatively liberalised trade regime the public sector dissaved the most. This fact in turn can be seen from the MPS of the private

⁸The decomposition analysis is restricted to the period 1971-72 to 1987-88 because prior to 1971-72 division of domestic savings into public and private is not available.

sector which saved the most (MPS = 0.23) in the liberalised regime compared to the restrictive regime when its MPS was 0.16.

Next we re-estimate Equations (4) and (5) by including foreign capital inflows. These estimates are reported in Equations (6) and (7):

$$S_t^{pu} = 2962.8 - 0.06 Y_t' + 0.18 F_t' - 0.55 DF_t' \quad \dots \quad (6)$$

(2.96) (-2.30) (0.71) (-1.46)

$$\bar{R}^2 = 0.29, F = 3.20$$

$$S_t^{pr} = -3313.8 + 0.19 Y_t' - 1.04 F_t' + 0.59 DF_t' \quad \dots \quad (7)$$

(-2.75) (6.61) (-3.39) (1.30)

$$\bar{R}^2 = 0.78, F = 19.79$$

It can be noted from Equation (6) that the explanatory power of foreign capital inflow in explaining the public sector savings is virtually nil. Thus it is difficult to conclude from here that foreign capital inflow is responsible for public dissaving or it put any kind of pressure on the public sector to increase its savings. Equation (7) shows a negative impact of foreign capital inflow on private savings. This shows a relaxing attitude of the government in attracting private savings when foreign loans are easily available. Another way to interpret this negative relationship is through the effect of foreign capital inflow on consumption. The availability of foreign exchange led to import liberalisation which stimulated private consumption.⁹

We conclude this paper by noting that:

- (i) No consistent pattern emerges from our analysis whether the IS policy had *always* helped in increasing MPS. Nevertheless, the highest MPS was observed in a more restrictive trade regime;
- (ii) While foreign capital inflow has substituted for domestic savings in all trade regimes yet its effect was minimal under the IS policy. It is, however, difficult to conclude that there will always be a weak adverse effect of foreign capital inflow on domestic savings under an IS policy;
- (iii) Irrespective of the trade regimes, the results of the decomposition exercise show that the public sector is a consistent dissaver and the private sector is the saver of the economy; and
- (iv) Foreign capital inflows have an insignificant adverse effect on public

⁹It may be noted that the share of imports in total trade increased between 1971-72 and 1987-88 from 53 percent to 65 percent while as the average propensity to consume increased from 0.87 to 0.90 during the same period.

savings while they have a significant adverse impact on private savings. It appears that the relaxed attitude of the government had, by and large, failed to make the tax and saving effort in line with the foreign capital inflow. In other words, foreign capital inflow has impaired the domestic effort at reaching a "self-sustaining" take-off. It calls for a major policy review to restructure the tax system and saving efforts to mitigate the adverse effects of foreign capital inflows.

REFERENCES

- Bhagwati, J. N. (1978) *Foreign Trade Regimes*. In J. N. Bhagwati (ed) *The Anatomy and Consequences of Exchange Control Regimes*. Cambridge, Mass: Ballinger for the NBER. 206-18.
- Dornbusch, R. (1980) *Open Economy Macro-economics*. New York: Basic Books.
- Dorosh, P. (1988) *Exchange Rate and Trade Effects on Relative Prices in Pakistan*. (Draft Working Paper), International Food Policy Research Institute, September 9.
- Kemal, A. R. (1991) *Industrial Sector Review Study*. Manila: Asian Development Bank, Unpublished.
- Nurkse, R. (1959) *Patterns of Trade and Development*. Stockholm: Almquist and Wicksell.
- Pakistan, Government of (1991) *Economic Survey: 1990-91*. Islamabad Finance Division, Economic Adviser Wing.

Comments on
"Foreign Trade Regime and Savings in Pakistan"

The authors are addressing some interesting issues in a very important area, and succeed in doing so to a large extent. Their review of the different trade regimes is excellent. However, there are some limitations in the presentation that are addressed as follows:

In referencing Paul Dorosh's paper, the authors have not given enough necessary details. In Table 1, they have reproduced a series of effective exchange rate (EER) computations from Paul Dorosh's 1988 paper. Since these EERs are the basis of their qualitative analysis, approximately one third of their paper, it would have been useful to have footnoted the methodology for the computations, and stated the kind of data series that were used by Dorosh.

In the paper, the authors have noted that in the third sub-period of their study, 1976-77 through 1980-81, the domestic inflation rate was high as compared to Pakistan's trading partners. Again, it would have been useful to demonstrate this, or footnote some other study which examined this phenomenon more fully.

The authors have estimated a model that only looks at domestic supply and not demand. Even more critically, the estimations involve foreign resource flows, yet the authors have not introduced foreign demand and supply constraints in their model.

This becomes more important since they are saying that resource outflows were the same in each of the regimes they have studied.

Further, single equation models in a clearly multi-equation context can lead to simultaneity bias. The authors need to further define the theoretical underpinnings of the functional relationships in the models used for the estimations. There also needs to be a discussion of how other scholars approached the problem.

They have not mentioned that there can be aggregation problems in estimating equations that look at aggregate economic variables. They have used lagged variables in some of the equations and obtained statistically insignificant results. It would be useful to state the nature of the lags that were used. Often, an autoregressive lag structure is useful for estimations involving foreign trade data.

The authors have not stated whether the variables were defined in real or in nominal terms. They need to say how the variables are specified, and what the advantages are of the specification they have chosen to use. They have also not specifically stated the units of measurement of any of the variables. It is also not apparent why they did not continue to use a data series up till the very recent past, and instead stopped at 1988.

In the equation with an endogenous foreign resource variable, it is not clear whether data series for debt servicing are included in the foreign resource flow variable. This is an important variable especially in the context of the changes in the different trade regimes. In the 1960 there was massive over invoicing by importers. In the 1970, the servicing of the loans used to pay for these imports was increased not only by the large devaluation of the rupee *vis a vis* the US dollar, but also because the over invoicing made the pay back on the loan even larger.

In terms of the econometrics methodology, there are some problems. In presenting results of the estimated equations, the authors have not presented the results of the Durbin-Watson test for autocorrelation. Autocorrelation can be quite serious since it will give biased estimators and incorrect values for F and t tests.

The logarithmic form is commonly used when making estimations using foreign trade data and it is not clear why the authors did not use this specification in their estimated equations. Besides other more technical advantages to using this formulation, it is also possible to directly obtain elasticities from such a formulation, since these would have been of interest in the current study.

The definitions of the savings function, Equation (2), are not very clear and need to be explained. It seems that the domestic expenditure variable has been left out of the equation. In any event, the Y_t and F_t variables are defined almost the same, which would probably lead to multicollinearity.

The authors say that in the 1960s, there was a high savings propensity. However, that is not very apparent from the estimations. It was higher than in the other periods defined, but only slightly so.

The authors have concluded, after estimating Equations (4) and (5), that the public sector savings gap is filled by borrowing from the private sector and from foreign sources. However, the equations are simply looking at public savings and private savings as functions of the gross domestic product and a dummy variable for the 1971–76 (moderately open) trade regime. So it is not clear how the authors make the conclusion they do about the relationship, firstly, between public and private savings, and secondly, between public savings and the availability of foreign financial resources, since their equations do not define these relationships.

As stated at the beginning of this discussion, the authors have addressed some very interesting issues. However, they have not made any policy recommendations based on their findings, and the presentation would gain from their doing so. Specifically, what is the lesson policy-makers can learn from the findings?

Furthermore, there are many avenues for further research in this area, par-

ticularly in terms of estimating a well-defined econometric model that also looks at foreign demand and supply constraints, and domestic demand.

Finally, the result that domestic savings are not influenced by overseas remittances is potentially an extremely important corollary to the research, which would benefit from being studied in the context of a more rigorous theoretical model.

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