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## INTRODUCTION

Macroeconomic imbalances in mixed enterprise economies frequently reflect excessive claims on financial resources by the public as against the private sector, thereby putting unfavourable pressures on prices and the balance of payments. In the absence of interest rate ceilings, such crowding-out forces would operate directly via upward pressures on the cost funds in the domestic financial market, with similar consequences on external and internal stability. The tightening of fiscal policy and the related unwinding of the crowding-out effect should thus lead generally to an easing of market conditions for private sector driven revival of economic activity, including financial stability. On the other hand, it is fairly well documented (e.g., Aschauer, D., 1989; Taylor, L., 1989) that public investments and other relevant fiscal

# CROWDING-OUT AND CROWDING-IN EFFECTS OF POLICY REFORMS IN DEVELOPING COUNTRIES

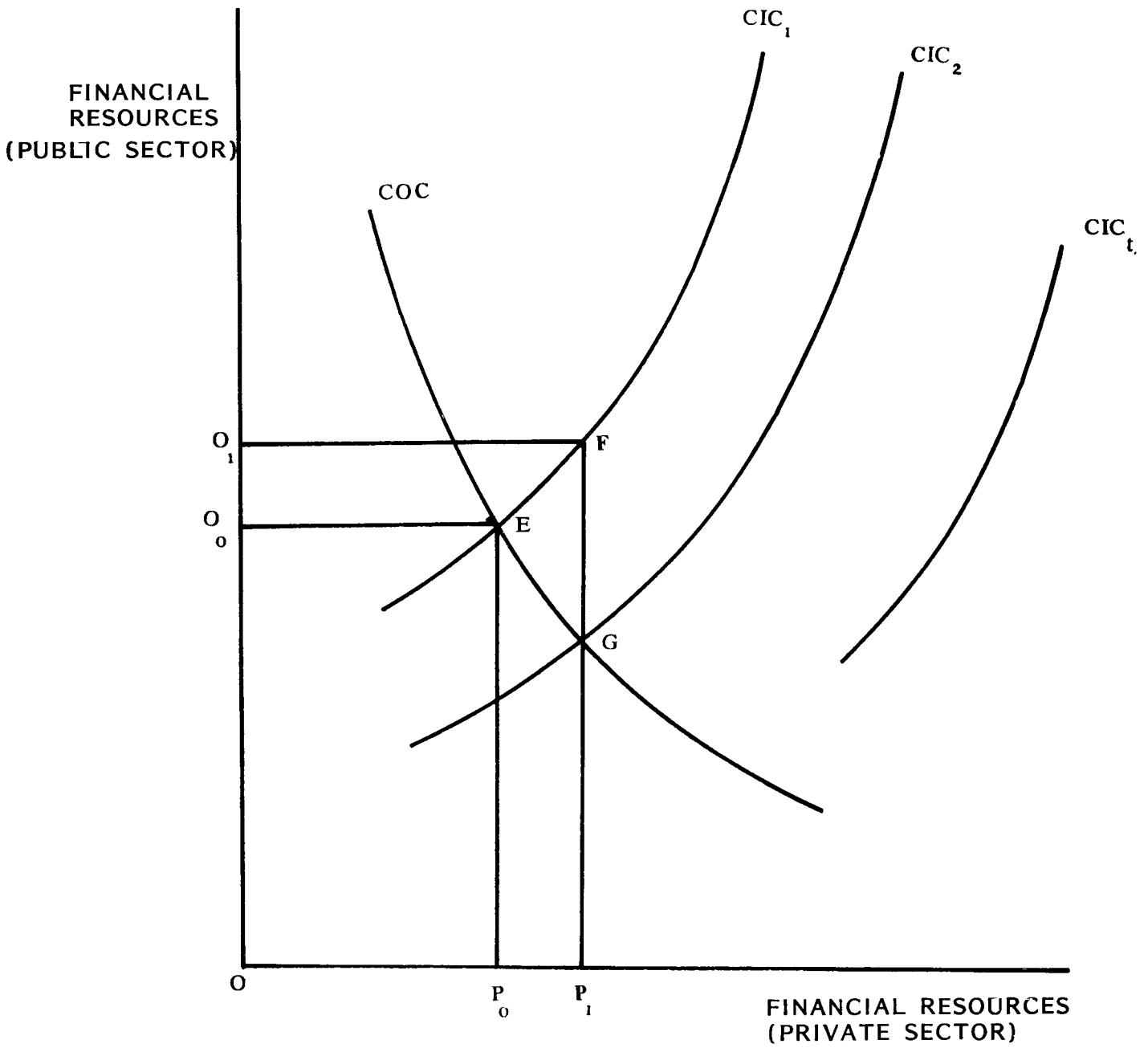
outlays provide inducements for private investments, due to technical complementarities and external economies - i.e. the crowding-in effect. Accordingly, the process of correcting macroeconomic imbalances while at the same time promoting renewed economic growth would involve interaction of factors related to both the crowding-out and crowding-in effects.

This paper is intended to discuss the interplay of these two effects in the context of growth-oriented adjustment programs in developing countries, and to highlight some of the policy implications. A discussion of the nature and determinants of the two phenomena in a developing-country context is given in Section II. Section III presents some conclusions and practical implications of the analysis.

On the basis of conventional textbook models of rational maximizing agents, smoothly clearing markets, and all-rational expectations (i.e., perfect foresight), public investment that raises

aggregate investment beyond the level considered optimal by private economic agents could have a crowding-out effect on investment activity in the private sector, depending on the expected impact of incremental public investment on the rate of return on capital. Given the characteristic large gap between prevailing economic activity levels and production possibilities in developing countries, it seems reasonable to suppose that the danger of such an investment crowding-out effect would, in general, be minimal in such countries; for this reason, the analysis below abstracts from such a negative feedback of public capital outlays, on private sector investments. In addition, to avert undue diversion into likely negative and positive (e.g., confidence, stability, and technological spin-off) effects of military spending (Benoit, E., 1973; Looney, R.E., 1990), all references to public outlays in what follows are intended to mean nonmilitary expenditures.

FIGURE 1: ILLUSTRATION OF CROWDING-OUT & CROWDING-IN CURVES.



In general, as between developed and developing countries, it may be expected that CIC schedules for the former group of countries would be relatively farther from the origin--i.e., a given incremental public investment would be associated with greater private investment response, due, for example, to comparatively better infrastructural base and, of course, the greater savings and investment possibilities from the higher incomes in these countries, although it is also possible that in developing countries with particularly low low infrastructural base, a given quantum of public investments would induce greater private sector response, relatively speaking, than could be expected in a developed country.

An intersection point of a COC and CIC schedule (say, E in figure I) can be interpreted as a situation in which, given the institutional and behavioral characteristics of an economy, private sector investment (as well as sectoral economic activity in general) is fully consistent with the resources mobilizable by the private business sector, or, equivalently, that, based on available resources, the prevailing level of economic activity in the private sector is fully in line with the possibilities offered by public-sector operations, including investments in infrastructural facilities. To apply this framework in gauging the interaction of crowding-in and crowding-out effects in an adjustment policy context, let us suppose that an improvement in fiscal operations leads to an unwinding of the crowding-out effect, in the form of a movement along the COC schedule from E to G in figure I. Other things remaining unchanged, use of the additional available resources

( $P_0P_1$ ) for productive purposes by the private sector would, somewhat paradoxically, require increased public-sector outlays (by  $Q_0Q_1$ ) on the basis of the complementary relationships underlying the CIC schedule. Given overall fiscal austerity, the necessary crowding-in resources consistent with the increased scope for private-sector economic activity (by  $P_0P_1$ ) would have to be obtained in other ways, equivalent to an outward shift in the CIC schedule (e.g., from  $CIC_1$  to  $CIC_2$ ).

In a policy reform context, such an outward shift in the CIC schedule could be effected essentially as part of overall economic restructuring, and not necessarily by means of incremental public-sector outlays. For examples, commercialization or privatization of some public utilities or services would permit expansion of such facilities without a direct burden on public-sector fiscal operations. Similarly, for given fiscal parameters, liberalization of the regulatory framework would make possible the release of resources hitherto allocated by the private sector for compliance with (or evasion of?) such control measures, for more productive uses. This suggests that, in a policy context, the factors determining the crowding-in effect should not be seen only in quantitative terms.

For an adjusting country embarked on internal and external liberalization, capital inflows, of course, provides another means of making up for slack in the complementarity of crowding-in factors with the unwinding of the crowd-out effect. Relating such inflow possibilities to the familiar catalytic effect of multilateral lending, one can envisage that a strong reform program backed up

with conditional assistance from the IMF and/or the World Bank would benefit from additional inflows from a least the following sources: (i) bilateral aid (possibly related to debt rescheduling); (ii) (re) enhanced export-credit facilities from industrial country institutions; (iii) direct foreign investment inflows; (iv) financial assistance from regional development banks; (v) return flows of flight capital; (vi) improved country perception by private international bank lenders, including possible 'new money'; and (vii) where the requisite facilities permit, enhanced prospects for portfolio investment inflow. On the not unlikely assumption that, on average, a dollar of adjustment-based lending by one or both of the Bretton Woods institutions generates an equal amount from each of these sources, the catalytic effect of such multilateral assistance would thus be roughly seven times the direct assistance amount. To the extent that inflows from the various sources depend, inter alia, on the existing volume and quality of the factors determining crowding-in responses, incidence of the catalytic effect would vary even among developing countries, with the nature of internal enabling factors, including the investment climate and related regulations, as an important determinant.

Being essentially a technical coefficient, the crowd-in effect and its operational significance in individual cases can, of course, be quantified. Evidence from India, taking other determining factors into account, indicates a measured coefficient greater than unity and close to two in terms of the responsiveness of aggregate private capital formation in the agricultural

sector to incremental public investments in that sector (Chakravarty, S., 1987). As noted above, it seems reasonable to expect that the degree of existing infrastructural endowments in the respective countries or sectors would play a significant role in determining the numerical value of the coefficient. On this basis, given the generally more limited supply of infrastructural facilities in Africa, including the finding that availability of all-weather transportation and feeder roads on the continent is, on average, only about 3 percent of the corresponding situation in India (Saad, A.A., and Simpson, M.C., p. 19), it may be supposed that, in the short run at least, the crowding-in coefficient would be generally low, and unlikely to exceed unity in the African context. In any case, in situations where there exists substantial under-utilization of installed capacity in the private sector, the impact of incremental public investments on business profit margins is likely to be felt less in terms of the crowding-in effect's direct lowering of business costs than via the stimulus given by such investments to employment, income, and consumer demand.

Clearly, intercountry variations in this domain could be significant: for example, the positive and relatively speedy response of agricultural producers to liberalization and other incentive policies in Nigeria during the 1980s has been attributed partly to the expanded and fairly extensive physical and economic infrastructure, including rural-sector facilities, which permitted market forces to be transmitted more directly and transparently between rural sellers and urban buyers, without 'exorbitant' margins for distributors (Nigeria, 1988, p.41; The

Economist, November 3, 1990, p.50); whereas in Madagascar, "poor transportation and trade facilities" have been cited as largely contributing to the finding that liberalization and related measures led to an improvement in the profit margins for internal marketing and distribution (i.e., non-tradables) as compared to rural production of exportables (Hugon, P., 1988).

Another factor bearing on the behaviour of the crowding-in effect in response to an unwinding of the crowding-out effect as part of an overall policy reform is the degree of dependence on borrowed in relation to equity funds in existing business operations - i.e., capital gearing. The extent of business self-financing in developing countries has been found to be generally low, amounting to only about 50 per cent of corresponding figures in the industrial countries (IFC, 1989; Padmanabhan, 1990), partly reflecting typically the attractiveness of administratively depressed interest rates on bank loans over a wide range, often coupled with oligopolistic financial market structures. In such circumstances, when an unwinding of the crowding-out effect is combined with interest rate reform, the crowding-in response capacity of the private sector would depend in part on interest rate elasticity of sectoral economic activity. Accordingly, the rural and other relatively less capital-intensive sectors may be expected to have stronger crowding-in response potential than other sectors. On this basis, the fact that low-income countries in Africa generally have smaller rural sectors than comparable countries in the rest of the world, with about 75 per cent of their population in 1988 being in the

rural areas compared to 80 per cent for the latter group of countries (IBRD, 1990; p. 238), would suggest relatively smaller indigenous scope in terms of the capacity of the private business sector to tap possible crowding-in effects of macroeconomic and structural policy reforms. Separately, for a given crowding-in effect emanating from public sector capital formation activity, simultaneous increase in domestic taxes will tend to weaken the impact of the crowding-in effect on business incentives, due to the adverse implications of such levies for business costs and net profit margins.

On an economy-wide basis, the comparatively weaker capacity of African countries to capture the anti-crowding-out potentials of economic reform programs would also seem indicated by the following data (IBRD, *ibid*; IMF, 1990):

- (i) Investment ratio (1965-80, annual average):
  - (a) Africa: 22.4 percent
  - (b) Other developing regions, (except the Middle East): 25.4 percent
- (ii) Energy supply (kilograms of oil equivalent, commercial, 1988):
  - (a) Low-income Africa: 75.7
  - (b) Other low-income countries: 198.3
- (iii) Adult literacy rate (1985):
  - (a) Low-income Africa: 42.9 per cent
  - (b) Other low-income countries: 52.5 per cent

As in the specific case of infrastructural facilities, the range and quality of the existing capital stock in an economy can be expected to play an important role

in shaping its crowding-in responses to improved business outlook stemming from financial and other policy reforms. As a proxy for the capital stock, information based on the behaviour of the investment ratio during the decade and a half ended in 1980 suggests that Africa generally is less well equipped with physical capital resources than the other developing regions, thus implying a less strong capacity to respond to economic stimuli stemming from the unwinding of the crowding-out effect. The fact that available commercial energy supply in low-income African countries is on average less than a half of what prevails in other comparable countries also leads to the same conclusion, as is the substantial interregional gap in the rate of adult literacy. The latter factor probably accounts, at least to a degree, for some analysts' observation that awareness of the nature and significance of adjustment programmes are so little understood by the public in Africa (Haggard, S., 1985, p. 513; Nigeria, 1988; p. 5).

### III. CONCLUSIONS AND IMPLICATIONS

Joint analysis of the crowding-out and crowding-in effects permits simultaneous focusing on not only the demand but also the supply side impacts of financial and related policy reforms, especially in cases relying on a market-oriented, private sector-driven adjustment and growth strategy. In this connection, arguments by some analysts (e.g., Singer, H.W., 1989) that prolonged market-oriented adjustment efforts could produce a kind of adverse hysteretic effect in the sense of

squeezing an economy beyond foreseeable rebound, would appear to overlook the prospects of a positive crowding-in effect picking up possible economic slack related to unwinding of the crowding-out effect, at least in part. Empirical evidence provides support for such positive links between macroeconomic policy reforms and recovery of micro-enterprises activity: for example, in Ghana, "... When policy reforms stimulated an economic recovery, the average employment level in ... firms doubled ..." (Marsden, K., 1990; p.8).

Given that micro-level enterprises' responses to policy reforms, operating via the crowding-in effect, depend importantly on availability of publicly financed facilities, serious concern with the impact of such reforms on economic activity and related objectives would require careful attention to the unwinding of the crowding-out effect as an element of fiscal reconsolidation, so as to minimize adverse repercussions on business responses to reform policies. In this context, the oft-noted tendency for policy authorities to curtail budgetary excesses by concentrating on cuts in investment and maintenance expenditures can hardly be helpful. Ideally, for a specified necessary cut-back in budgetary operations, the split between current operating and other expenditures would need to be done so as to avoid marked disparity at the margin in the likely overall benefits from these outlays, and especially so as to provide maximum possible scope for the crowding-in effect. In general, the structure of capital expenditures and their crowding-in linkage potential would also reward close scrutiny, especially in cases where

economy-wide policy reforms are being carried out under strong internal pressures for employment and growth. In short, careful interfacing of the unwinding of the crowding-out effect on the one hand and the building-up of the crowding-in effect on the other, provides a means of blending the adjustment and growth dimensions of public policy.

It would, however, be superficial to visualize policies aimed at maximization of crowding-in potential only in quantitative terms, since there are other factors which can hinder the capacity of households and firms to effectively utilize such potentials. Clearly, over-regulation of economic activity, by unduly adding on costs, can severely detract from business profitability, thereby impairing crowding-in incentives. For example, cases have been identified in which "... a prospective entrepreneur.. to set up a small garment factory ...(must) spend 289 working days dealing with regulations, "and where" ... it took more than 2 years to register a minibus route" (IBRD, *ibid*, p.64); In another case, it took "... an average of 18 months in approving investment licences" (Kruger, A.O., 1990, p. 16). Some analysts believe that qualitative aspects of the crowding-in effect are particularly unfavourable in African countries, arguing that "... in the tax and regulatory areas ... there is a long way to go before African enterprises can compete on an equal footing with countries in Asia and the Caribbean" (Marsden, *op.cit.*, p. 17). Combined with the comparatively scanty infrastructural facilities, this phenomenon of over-regulation calls for special efforts on the part of the African and other similar

countries, to minimize obstacles to full realization of the crowding-in effects of economic and financial policy reforms. As a step in this direction, the so-called one-stop approach can be expected to prove helpful as it permits all regulatory approvals for investment activity to be obtained within one institutional location, ideally combined with "sunset provisions" under which such approvals would be deemed automatically granted in the absence of contrary information during a specified time interval.

Operationally, for specified realized values of macro policy instrument variables such as (net) domestic banking system credit, fiscal receipts or expenditures, and all else remaining unchanged, their impact on policy objectives relating to, say, growth, employment, and the balance of payments would depend on the interaction of the crowding-out effect unwinding and the buildup of the crowding-in effect.

Intercountry differences in the

factors shaping such interaction suggest that the net effect would tend to vary from case to case. For example, among adjustment policy packages featuring interest rate reform, the net effect would depend partly on how crowding-in responses are affected by the interest rate elasticity of investment in individual cases, just as business responses to aggregate demand compression under an overall adjustment program would depend, via the Accelerator Principle, partly on entrepreneurs' assessments of the impact of such restraints on consumer demand in their respective markets at home and abroad.

The foregoing suggest that close evaluation of the behaviour of the crowding-out and crowding-in effects in individual cases would provide useful indicators of the likely impact of macroeconomic and structural adjustment measures on the economy, including prospects for aggregate investment, growth,

employment, and the balance of payments. This means, in turn, that careful examination of the factors shaping such behaviour in individual cases would contribute to an improved understanding of the modus operandi of an economy as well as its adjustment process. Such an approach would also encourage country authorities and other interested parties to improve data collection on micro-level economic activity, including cost structures. For African countries, in particular, available evidence suggests that improvement of infrastructural facilities and other elements of social overhead capital will contribute to an enhanced effectiveness of economic and financial policy reform programs.