

memorandum

DATE: 03/27/83

REPLY TO: DPPE/PAAD:J. LaPittus
ATTN OF:SUBJECT: Egypt - Economic Criteria for AID Programming Decisions with
Particular Reference to Pricing/Rate of Return Issues in the
Water/Waste Water and Electricity Sector

TO: Distribution

Introduction

Both AID/W and this Mission have made the convergence of financial prices towards economic prices a major decision criterion in evaluating/ selecting among competing programming options. The electricity and water/wastewater sectors are two particularly timely cases in point. In the electricity sector, we have made funding for Ismailia IV contingent upon electricity tariff increases that "exceed inflation". In the water/wastewater sector, AID/W has set up GOE concurrence to establishing financial user charges that cover economic costs a basis for approving major USAID programming initiatives in the sector.

Gaining convergence between financial and economic prices is an appropriate objective. That isn't the issue. The real issue is whether gaining this convergence is an adequate basis for determining AID programming interventions. It is not an adequate basis. The reason for this is that convergence between financial and economic prices indicates nothing at all about the economic rate of return underlying an investment. One purpose of this memo is to demonstrate this point with particular reference to investments in the electricity and water/wastewater sectors. The second purpose is to suggest that we can (and should) be in water/wastewater even if we cannot achieve appropriate user charge levels. This is not to say that establishing appropriate user charges isn't desirable. Nor does it provide an excuse for not getting appropriate user charges established. Establishing convergence between financial and economic prices is desirable but it should not be the dominating criteria for AID programming interventions.

Distinguishing Between Financial and Economic Pricing/Return Issues in the Investment Selection process.

It is a fairly simple matter to show why convergence between financial and economic prices isn't an adequate basis for programming decisions—even if that convergence is a wholly desirable objective.

In essence, whenever financial and economic prices diverge, there is a corresponding divergence between financial and economic rates of return. Our interest in promoting convergence between financial and economic prices rests on a simple foundation: convergence means that investment

decisions will be based on their economic merits as distinct from dependence upon price subsidies and the like. Put more directly, convergence means that there will be equality between economic and financial returns, whatever the level and positive or negative size of the return.

All of these points are summarized in Table I. This Table simply lays out the fact that divergence between financial and economic prices means that high financial returns can be associated with economic returns that range across the board - from highly negative to equality with the high financial return. This particular illustration corresponds to the topmost row in the Table. Similarly, the rightmost column in the Table indicates that a high economic return can be associated with financial returns that also range across the board. The other rows/columns have similar interpretations.

Within the context of Table I, convergence between financial and economic prices is also easy to represent. Convergence is represented by the diagonal that begins on the lower left and ends at the upper right, i.e., all cells where economic and financial returns are identical. The important point to note is that convergence between financial and economic prices can occur when the corresponding financial and economic returns are equal and negative. This is why convergence between economic and financial prices is not an adequate decision criteria for AID investments. The convergence can come at negative economic rates of return.

An example can illustrate the point. It is a virtual certainty that investment in additional electricity generating capacity in Egypt has a negative economic rate of return. That is, the returns are somewhere in columns 1 or 2. Our interest in getting the GOE to raise electricity prices is simply to bring home, eventually, this fact to them. In essence, raising electricity prices to true marginal economic costs would reduce demand to a level that would make existing electricity generating capacity redundant. Existing capacity would become redundant because the price increase would force out a lot of uneconomic uses of electricity. The Nag Hamadi and Kima operations are two polar cases in point. They alone account for 23% of current electricity consumption or amount equal to about 3.8 plants the size of Ismailia IV. Both of these operations are viable only because they aren't being charged the true marginal economic costs of electricity generation. (Our willingness to fund Ismailia IV on the basis of relatively modest tariff rate increases rests on an assessment of political/adjustment cost considerations. Since Kima/Nag Hamadi are not about to be closed down, the capacity is "needed". At the same time it is absurd to fund additional generating capacity that is "needed" only because of a wholly unsatisfactory tariff rate structure for allocating resources efficiently. Thus, let us at least start movement on rates in the appropriate direction before making a commitment on Ismailia IV).

Water/Wastewater Investments

Table I also can be used to illustrate why investment in the water/wastewater sector is probably a reasonable choice in spite of the user charge issue.

Without going into a detailed analysis here, I think it could be fairly convincingly demonstrated that water/wastewater investment has a positive and probably high economic rate of return. This would, in the context of Table I, place it in column 3 or 4. Given, however, the very low user charges for water and the absence of user charges for wastewater, the exact location would be in either cell VIII or cell IV. These are the cells corresponding to positive economic returns in combination with large, negative financial returns.

In essence, I don't think we should get "hung up" on the financial issue if the investment has economic merit. If I'm right on the relative economic merits of additional electricity generation versus water/wastewater investment, let's not hang ourselves up on financial criteria in the latter. We would be hoisting ourselves on our own petard. At the same time, I would emphasize that nothing said here should be interpreted as an excuse for not trying to establish appropriate user charges in the water/wastewater sector. But this issue is separate from and should not dominate the investment selection process from an AID perspective.

General Programming Criteria

Basically, all of the above can be boiled ^down to a single point. Economic criteria, as distinct from financial criteria, should dominate the investment selection process. The latter provide both ancillary information and guidance. For example, anything in column 4 is worth doing and within column 4, cell I is preferred over cells II through IV. Getting movement from cell IV to cell I is worth the effort because it would mean establishing prices that reflect real economic costs. That is a worthwhile objective but it is not the dominant one.

TABLE I:
Preference Ordering for AID
Programming: The Relation Between
Financial and Economic Rate of Return Criteria

ROWS-
FINANCIAL
CRITERIA

COLUMNS-
ECONOMIC
CRITERIA

↑
+
0
-
↓

FINANCIAL
RETURN
CRITERIA

| | | | | | | | |
|---|------|---|-----|---|------|--|-----|
| High Financial Large Negative Economic | XIII | High Financial Small Negative Economic | IX | High Financial Low Economic | V | High Financial High Economic | I |
| Low Financial Large Negative Economic | XIV | Low Financial Small Negative Economic | X | Low Financial Low Economic | VI | Low Financial High Economic | II |
| Small Negative Financial Large Negative Economic | XV | Small Negative Financial Small Negative Economic | XI | Low Negative Financial Low Economic | VII | Low Negative Financial High Economic | III |
| Large Negative Financial Large Negative Economic | XVI | Large Negative Financial Small Negative Economic | XII | Large Negative Financial Low Economic | VIII | Large Negative Financial High Economic | IV |

← - 0 + →

ECONOMIC
RETURN
CRITERIA