In analyzing the government's behavior it is convenient to translate (10) and (11) into forms that clarify the fiscal role of the depreciation rate ε. Let the symbol ${}_t d_s$ denote the real value at the period 1 price level of the lira government debt payment promised on date t for date $s > t$. Then (11) and (10) translate into

$$(17) \qquad \varepsilon\,({}_1d_2 + {}_0d_2 + ky) + \tau y = {}_1d_2 + {}_0d_2 + g_2 - {}_1f_2 - {}_0f_2,$$

where

$$(18) \qquad {}_1d_2 = (1 + i)\left({}_0d_1 + g_1 - {}_0f_1 + \frac{{}_1f_2}{1 + i^*}\right).$$

Equation (17) states that on date 2 the proceeds of the inflation levy plus conventional taxes must suffice to repay the government's net debt and pay for current spending. (Of course, ${}_1d_2 + {}_0d_2 + ky$ is the total inflation-tax base.)

In period 2 the government chooses ε and τ to minimize (15) subject to (17). Importantly, all variables in (17) other than ε and τ are predetermined when the government makes its choices in period 2. In particular, the interest rate i that prevailed in period 1, as well as the government's mark purchases then (${}_1f_2$), are past history. If the government could precommit its period 2 actions in period 1, the government's choice problem would look quite different and the possibility of multiple equilibria would not arise: under precommitment the government would minimize (15) subject to (12)-(14), in effect choosing the interest rate between dates 1 and 2. The assumption here, instead, is that when period 2 comes the government does whatever minimizes (15) given the budgetary situation inherited from the past. The private sector has rational expectations about the government's objectives, and the forecast of lira depreciation incorporated in the nominal interest rate i is based on the assumption that the government will behave in this way.

Minimization of (15) subject to (17) requires the critical necessary condition:

$$(19) \qquad \frac{\theta\varepsilon}{({}_1d_2 + {}_0d_2 + ky)} = \frac{\tau}{y}.$$

Equation (19) states that at an optimum, the marginal cost of extra depreciation per lira raised equals the marginal cost per lira of higher conventional taxes. Using (19) to eliminate τ from (17) gives ε as

$$(20) \qquad \varepsilon = \frac{({}_1d_2 + {}_0d_2 + ky)\,({}_1d_2 + {}_0d_2 + g_2 - {}_1f_2 - {}_0f_2)}{({}_1d_2 + {}_0d_2 + ky)^2 + \theta y^2}.$$

Use of (18) to substitute for ${}_1d_2$ above shows how the government's preferred depreciation rate is affected by the market interest rate prevailing in period 1 and by the currency composition the government chooses for its debt then.

Figure 5 graphs two schedules that together determine the set of equilibrium period 1 nominal interest rates. The first is the depreciation reaction function of the government, that is, which shows the depreciation rate ε it chooses in period 2 when confronted with a lira interest rate of i. As noted above, this rate can be found by using (18) to eliminate ${}_1d_2$ from (20). I have assumed that the reaction function is positively sloped, although this depends on the government's fiscal position. Intuitively, the positive slope of the reaction function reflects the possibility that a higher period 1 nominal interest rate, by raising the inflation tax base in period 2, makes greater currency depreciation optimal then. For the moment, the quantity ${}_1f_2$, equal to period 1 official acquisition of mark assets, is taken as given. Its role, which clarifies the factors that lend a positive slope to the reaction function, is explored later.

The second upward-sloping schedule in figure 5, the interest parity curve, shows the expected rate of depreciation ε consistent with the lira interest rate i prevailing in period 1. Equations (12) and (16) show the equation for this schedule is

$$\varepsilon = \frac{i - i^*}{1 + i},$$

which can be viewed as the reaction function of the lira bond market, that is, the interest rate it sets based on its expectation of ε.