

Professor P.C. MAHALANOBIS F.R.S.
8, King George Avenue,
New Delhi 2

Dear Professor Mahalanobis,

As I wrote to you in my previous letter I had the pleasure of discussing with Dr Mukherjee the problems involved in your development model, and I would like to present a short comment using the usual symbols for the economic variables and your symbols for the co-efficients.

Variables : Y national income = $C + I$ (1)
C consumption
M investment in machines for
consumer goods industries
E investment in equipment for
investment goods industries
I total investment = $M + E$ (2)

Equations : Apart from the two already mentioned there are two technical equations,

$$\dot{C} = \beta_c M \quad (3)$$

$$\dot{I} = \beta_i E \quad (4)$$

There has to be one more equation between the 5 variables, for which you chose an equation $M = \lambda_c I$ (5)
and I am inclined to choose $I = \alpha Y$ (5')

I think we can agree on assuming the two β 's to be constants; my preference would be in addition to assume α to be constant, representing the saving ratio of the country whereas you seem to prefer to introduce λ_c as a constant which implies that α would not be a constant. My difficulty may be formulated in this way that I do not see any economic meaning in λ_c whereas the meaning of α is clear to me, also there has been observed a constancy in α over averages of business cycles which would make it an easy starting point for analysis. It is true, however, that this constancy need not prevail in the future, especially if we may hope for important capital imports. Even in this latter case, however, I do not see any reason to consider λ_c to be constant. I do see, however, the desirability of investigating alternative developments which may be conceivable by changing certain instruments of economic policy. In such a case I prefer to specify and define beforehand what instruments of economic policy would have to be considered.

Yours very sincerely,

THE HAGUE, 18 August 1954
Sijzenlaan 44

Atschriff

PROF. DR. J. TINSBERGEN

Professor P.C. MAHALANOBIS F.R.S.
8, King George Avenue,
New Delhi 2

Dear Professor Mahalanobis,

As I wrote to you in my previous letter I had the pleasure of discussing with Dr. Mahalanobis the problems involved in your development model, and I would like to present a short comment using the usual symbols for the economic variables and your symbols for the co-efficients.

- Variables : Y : national income = $C + I$
C : consumption
M : investment in machines for consumer goods industries
E : investment in equipment for investment goods industries
I : total investment = $M + E$

Equations : Apart from the two already mentioned, there are two technical equations,

- (3) $\dot{C} = \beta_C M$
(4) $\dot{I} = \beta_I E$

- There has to be one more equation between the 5 variables for which you chose an equation $M = \lambda_C I$ and I am inclined to choose $I = \alpha Y$

I think we can agree on assuming the two β 's to be constants; my preference would be in addition to assume α to be constant, representing the saving ratio of the country whereas you seem to prefer to introduce λ as a constant which implies that α would not be a constant. My difficulty may be formulated in this way that I do not see any economic meaning in λ , whereas the meaning of α is clear to me. Also there has been observed a constancy in α over averages of business cycles which would make it an easy starting point for analysis. It is true, however, that this constancy need not prevail in the future, especially if we may hope for important capital imports. Even in this latter case, however, I do not see any reason to consider λ to be constant. I do see, however, the desirability of investigating alternative developments which may be conceivable by changing certain instruments of economic policy. In such a case I prefer to specify and define beforehand what instruments of economic policy would have to be considered.

Yours very sincerely,

Professor P.C. MAHALANOBIS F.R.S.
8, King George Avenue,
New Delhi 2

Dear Professor Mahalanobis,

As I wrote to you in my previous letter I had the pleasure of discussing with Dr Mukherjee the problems involved in your development model, and I would like to present a short comment using the usual symbols for the economic variables and your symbols for the co-efficients.

Variables : Y national income = C + I (1)

C consumption

M investment in machines for
consumer goods industries

E investment in equipment for
investment goods industries

I total investment = M + E (2)

Equations : Apart from the two already mentioned
there are two technical equations,

$\dot{C} = \beta_c M$ (3)

$\dot{I} = \beta_1 E$ (4)

There has to be one more equation
between the 5 variables for which you
chose an equation $M = \lambda_c I$ (5)

and I am inclined to
choose $I = \alpha Y$ (5')

I think we can agree on assuming the two β 's to be constants; my preference would be in addition to assume α to be constant, representing the saving ratio of the country whereas you seem to prefer to introduce λ_c as a constant which implies that α would not be a constant. My difficulty may be formulated in this way that I do not see any economic meaning in λ_c whereas the meaning of α is clear to me. Also there has been observed a constancy in α over averages of business cycles which would make it an easy starting point for analysis. It is true, however, that this constancy need not prevail in the future, especially if we may hope for important capital imports. Even in this latter case, however, I do not see any reason to consider λ_c to be constant. I do see, however, the desirability of investigating alternative developments which may be conceivable by changing certain instruments of economic policy. In such a case I prefer to specify and define beforehand what instruments of economic policy would have to be considered.

Yours very sincerely,

THE HAGUE, 18 August 1954
Stijnslaan 14

PROF. DR. J. TINSBERGEN

Professor P.C. MAHAJAN
8, King George Avenue,
New Delhi 2

Dear Professor Mahajan:

As I wrote to you in my previous letter I had the pleasure of discussing with Dr. Mahajan the problem involved in your development model, and I would like to present a short comment using the usual symbols for the economic variables and your symbols for the co-efficients.

(1)	Variables	Y	National income = $C + I$
		C	consumption
		M	investment in machines for consumer goods industries
		E	investment in equipment for investment goods industries
(2)		I	total investment = $M + E$

Equations: Apart from the two already mentioned there are two technical equations,

$$\begin{aligned} \delta &= \delta_0 M \\ i &= i_1 E \end{aligned}$$

There has to be one more equation between the 5 variables for which you chose an equation $M = A_0 I$ and I am inclined to choose $I = MY$

I think we can agree on assuming the two A 's to be constant; my preference would be in addition to assume δ to be constant, representing the saving ratio of the country whereas you seem to prefer to introduce A as a constant which implies that δ would not be a constant. My difficulty may be formulated in this way that I do not see any economic meaning in A whereas the meaning of δ is clear to me, that there has been observed a constancy in a very narrow range of business cycles which would make it an easy starting point for analysis. It is true, however, that this constancy need not prevail in the future, especially if we may hope for important capital imports. Even in this latter case, however, I do not see any reason to consider A to be constant. I do see, however, the desirability of investigating alternative developments which may be conceivable by changing certain instruments of economic policy. In such a case I prefer to specify and define beforehand what instruments of economic policy would have to be considered.

Yours very sincerely,