

The Impact of Currency Devaluation on Agricultural Output Mix and Relative Prices in Developing Countries

Karima Korayem^(*)

Abstract

تأثير تخفيض قيمة العملة على تركيبة الناتج الزراعي
وعلى الأسعار النسبية في الدول النامية

د. كريمة كريم

يعتبر تخفيض سعر العملة من العناصر الأساسية لبرنامج الإصلاح الاقتصادي الذي يقترحه صندوق النقد الدولي على غالبية الدول النامية التي تطلب مساعدته. هذه الدول تكون عادة «متلقية» للأسعار من الأسواق العالمية، أي تعتبر أسعار صادراتها من قبيل المعطيات. وهي تعاني أصلاً من خلل في اقتصادياتها، يتمثل في اختلال جانبي العرض والطلب في مختلف القطاعات. وتقوم هذه الدراسة ببحث أثر تخفيض سعر العملة على توزيع الناتج الزراعي بين الصادرات والاستهلاك المحلي، وأيضاً أثره على مستويات الأسعار، وذلك بالنسبة لمجموعي الدول: المتلقية للسعر، و«المحددة» له في الأسواق العالمية. ولهذا الغرض استخدم نموذج بياني أي تحليل بياني يمثل اقتصاداً مفتوحاً يتكون من ثلاثة قطاعات: قطاع الاستهلاك المحلي، وقطاع الصادرات والواردات، والقطاع المالي. وتوصلت الدراسة إلى أن الدول النامية، وهي دول متلقية للسعر، عندما تُخفّض من قيمة عملتها كأحد متطلبات سياسة الإصلاح الاقتصادي، فإن هذا يؤدي إلى زيادة الصادرات من المنتجات

(*) Professor of Economics, El-Azhar University, Nasr City, Cairo, Egypt.

الزراعية بالنسبة إلى الاستهلاك المحلي، ولكن هذا يكون على حساب انخفاض الدخل الحقيقي، وارتفاع الأسعار، ومزيد من التخفيض لسعر عملتها. وحتى إذا ما قامت هذه الدول بتطبيق سياسات انكماشية إلى جانب سياسات تخفيض العملة، فإن هذا قد يقلل بعض الشيء من الآثار التضخمية للبرنامج ولكن مستويات الأسعار تظل مرتفعة بالمقارنة بمجموعة الدول التي تعتبر محددة لأسعار سلعها في الأسواق العالمية.

1. Introduction:

Domestic currency devaluation is a common component in the IMF Structural Adjustment package for most of the developing countries (if not all of them), that seek the Fund's assistance. The impact of the exchange rate devaluation on the division of agricultural output into tradables and non-tradables and on relative prices, differ depending on whether the country is a price-taker or a price-setter regarding its export prices. The output mix and the level of relative prices attained have their implications regarding the scale of trade and the extent of inflation expected when the economy reaches the equilibrium state.

To examine those effects, a geometric model will be used⁽¹⁾, which deals with an open economy, with three sectors: the non-tradables market, the tradables market, and the money market. We shall add here the assumption that agricultural output is the dominant output in the non-tradables and tradables markets, which is a common characteristic in many Third World countries.

The paper includes four parts. Part one forms the Introduction; part two provides a brief description of the model; part three applies the model to examine the currency devaluation effects on the output mix and relative prices in the price taker's countries (case A), and the price setter's countries (case B); and part four presents the concluding remarks.

(1) This model has been developed by the author to the World Bank, and published in Korayem (1990). However, some assumptions have been modified to be able to deal with the case of the price-setter's countries, side by side with the price-taker's countries, which is the case covered by the original model.

2. A Brief Description of the Model⁽²⁾:

The model is based on the following assumptions:

(a) The non-tradables, n , and the importables, m , are consumed domestically; while the exportables, x , are totally exported.

(b) The importables, defined as imports and locally produced substitutes, are produced domestically, which is the same as with the exportables and the non-tradables.

(c) The domestic prices of the importables, P_m , are determined by the world prices, while the domestic prices of the exportables, P_x , may be taken as given for the price-takers (case A in section 3 below), or may be subject to influence by country, for the price-setters (case B below). In the latter case, P_x is determined by the domestic supply conditions (which determine the cost of production of x), and by foreign demand for x . The commercial policies (e.g. taxes, subsidies), and the exchange rate are taken as exogenous in cases A and B. The price of the non-tradables, P_n , is supply as well.

Taking P_m as the numeraire, P_x/P_m denotes the vertical axis, and based on assumption c- depends on the international terms of trade and on the commercial policies applied for the price-takers, and on the exchange rate as well for the price-setters; while the relative price of the non-tradables, P_n/P_m , denotes the horizontal axis, and depends on the exchange rate, money supply, and the other factors affecting demand and supply conditions in the domestic market (such as real income, and capital stock).

Along any ray from the origin, P_x/P_n is constant so that there is no price incentive to reallocate resources between exports and non-tradables; while along any vertical line, P_n/P_m is constant and hence there are no substitution effects in consumption.

Figures (1) and (2) represent the non-tradables and money markets. In figure (1), quadrant 1 shows the supply of non-tradables goods (Y_n)⁽³⁾, as a function of the relative price of exportables (P_x/P_m), given the relative price of exportables with respect to the non-tradables (P_x/P_n) and the capital stock, K . The supply function of the non-tradables is:

$$Y_n = Y_n(P_x/P_m, P_x/P_n, K)$$

Y_n slopes down to the right because of the competitiveness between the produc-

(2) For more details on the derivation of the model and the assumptions underlying it, see Korayem (1990: p.2-8).

(3) Y_n includes, also, that part of the importables, which are produced domestically (i.e., the import substitutes); this is a small part, though. Y_n consists mainly of the supply of non-tradables.

tion of x , which depends of P_x , and the production of n , which is Y_n , given K . Any change in P_x/P_n or K will shift the supply function Y_n .

In quadrant 2, by definition, any point on the 45° line shows equilibrium in the non-tradables market; i.e.

$$D_n = Y_n$$

Quadrant 3 gives the demand curve for the non-tradables as a function of the relative price of the non-tradables (P_n/P_m), given real income (y) and real money balance (M/P). The demand for non-tradables is given by:

$$D_n = D_n (P_n/P_m, y, M/P)$$

Any change in y or M/P will shift D_n .

Quadrant 4 summarized these effects through the locus NN . Any point on NN gives equilibrium in the non-tradables market. Along NN , the following holds:

$$D_n (P_n/P_m, y, M/P) = Y_n (P_x/P_m, P_x/P_n, K)$$

In Figure (2), quadrant 1 represents the money supply function:

$$MS = MS (P_x/P_m, e, BPC, MPM)$$

where MS is the money supply measured in domestic currency; e is the exchange rate defined as the amount of foreign currency per unit of domestic currency; BPC is the balance of payments condition, which may be in equilibrium, or in surplus, or in deficit. MPM represents monetary and fiscal policy measures that affect money supply (like interest rates, commercial banks reserve ratio, government borrowings from the banking system, etc.). It is assumed that e , BPC and MPM are given, which means that any change in one of them will shift the money supply curve, MS . The MS curve is upward sloping to the right because, given initial equilibrium in the balance of payments, and no change in e and MPM , an increase in the world prices of the exportables relative to the importables will increase the foreign exchange earnings of the country and hence will increase the money supply.

In quadrant 2, the vertical axis measures the total demand for money (MD), with the two components: the transactions demand (TR) and the asset demand (A). OC is a ray from the origin with a 45° angle and, hence, at any point on it:

$$MD = MS; \text{ where } MD = TR + A$$

The slope of OB represents the percentage of money demanded for transactions purposes (call it a), while the slope of COB shows the percentage of asset demand in total demand for money (call it b); i.e. $a + b = 1$ (no hoardings). Any point on OB shows the transactions demand for money consistent with the equilibrium in the money market, given A . Thus, at any MS level, the vertical distance between OC and OB represents the asset demand, when the money market is in equilib-

Figure (1)

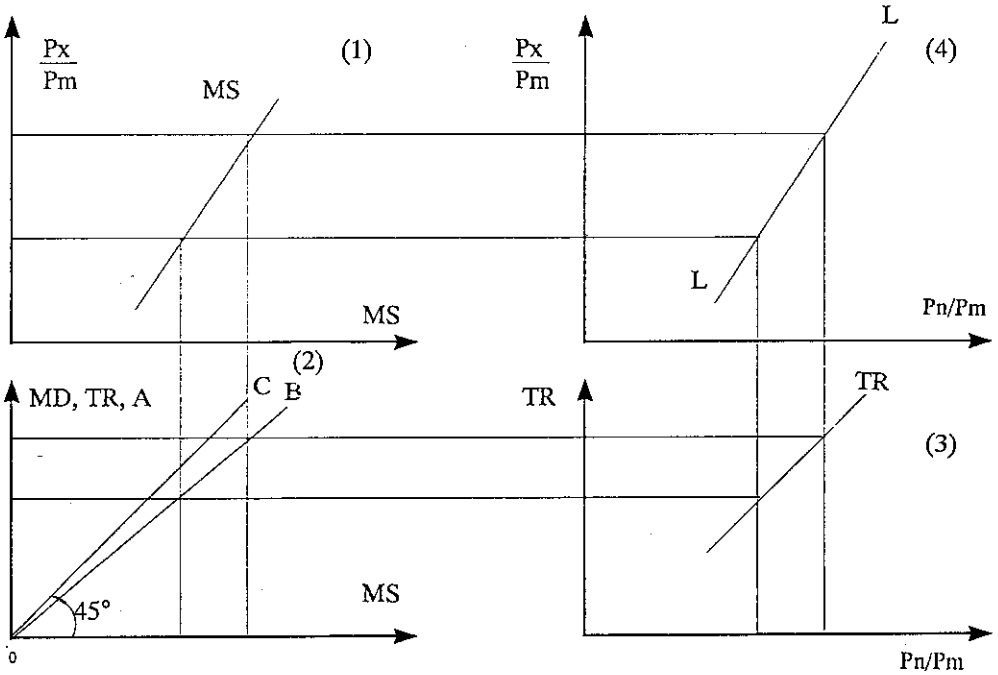
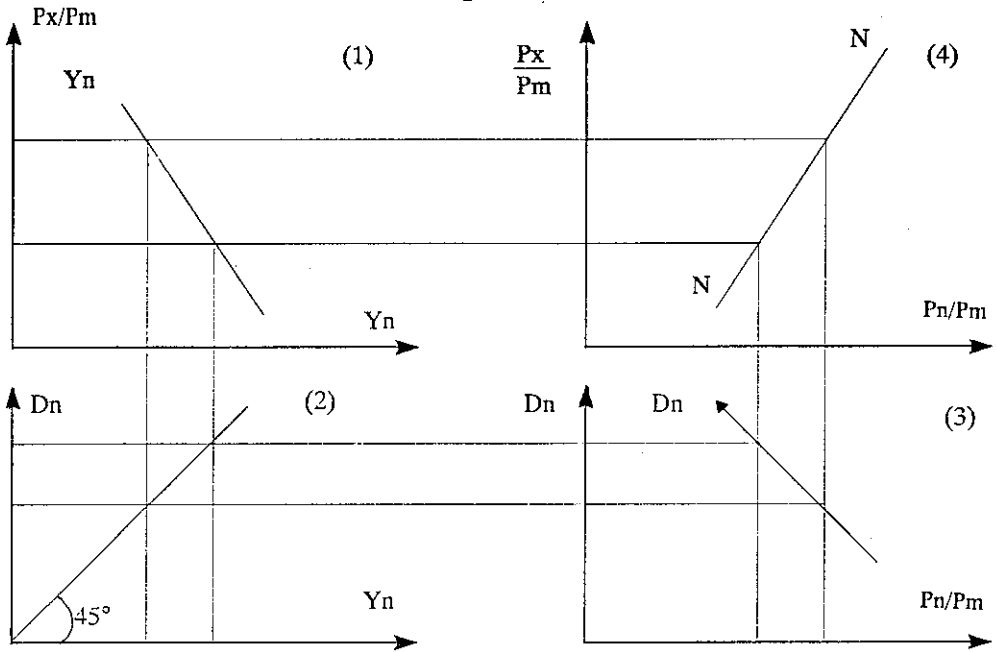


Figure (2)

rium; while the vertical distance between OB and the horizontal axis represents the transactions demand, when the money market is in equilibrium.

Quadrant 3 shows the transactions demand for money (TR) as a function of the relative price of the non-tradables, P_n/P_m . The transactions demand for money in an increasing function of P_n/P_m , given real income, y , and the asset demand, A ; i.e. any change in y , and/or A , will shift the TR curve. The equation of the curve is:

$$TR = TR(P_n/P_m, y, A)$$

Quadrant 4 shows the locus LL, which denotes values of the relative prices (P_x/P_m and P_n/P_m) that give equilibrium in the money market. The equation of the locus LL is:

$$MD(P_n/P_m, y, A) = MS(P_x/P_m, e, BPC, MPM)$$

From Figures (1) and (2), it is clear that any point to the left of the NN locus indicates excess demand for the non-tradables, ED_n , and any point to the right of NN indicates excess supply of non-tradables, ES_n . Also, any point to the left of the locus LL indicates excess supply of money, ES_m ; while any point to the right of LL indicates excess demand for money, ED_m . The intersection of the loci NN and LL indicates overall equilibrium in the economy, since equilibrium in the non-tradables and money market implies, according to Walras Law, equilibrium in the balance of payments. The relative prices, P_x/P_m , at equilibrium (i.e. at A) can be derived mathematically, by solving the equations of the loci NN and LL simultaneously. Thus, point A in Figure (3) indicates overall equilibrium in the economy, while point B is a disequilibrium point indicating excess demand in the non-tradables market and excess supply in the money market, which is a common case in many developing countries, that seek the IMF assistance. Hence, when we examine the impact of the currency devaluation on the economy in the next section, we shall assume that the country is initially at the disequilibrium point B; i.e. B will be the starting point of our analysis.

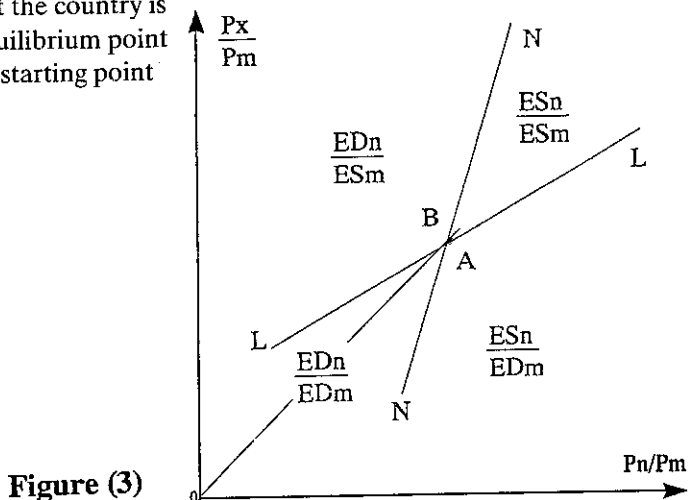


Figure (3)

3. Currency Devaluation Effects:

Case A (the price takers): The prices of exports are determined on the world market. When e falls to e_1 , the following effects will take place in the non-tradables market (Figure 4), and in the money market (Figure 5). Assume that the country is initially at B. The effects in the non-tradables market (Figure 4) are the following:

(1) The relative price of the exportables, P_x/P_m , does not change, and remains at the level w_0 (quadrant 1), since Δe affects P_x and P_m equally.

(2) P_x/P_n rises \rightarrow Y_n curve shifts to the left to Y_n' , indicating a shift in resources from the production of non-tradables to the exportables (quad.1), since the latter becomes relatively more profitable. The supply of the non-tradables falls from n_0 to n_1 .

(3) The money supply curve, MS , shifts to the right, to MS' (Figure 5, quad.1), indicating an increase in money supply at each level of P_x/P_m , and hence money supply at w_0 increases from M_0 to M_1 . This is because with the price of x determined in the world market, the same amount of foreign exchange will enter the country, which will be converted into a larger amount of domestic currency because of the fall in e to e_1 .

(4) The increase in money supply \rightarrow an increase in real balances, $M/P^{(4)}$ (where $P = f(P_n, P_m)$), \rightarrow a shift in the demand curve D_n to the right to D_n' , indicating an increase in the demand for n at each level of P_n/P_m (quad. 3)⁽⁵⁾.

(5) When P_n rises \rightarrow P_n/P_m falls from z_0 to z_1 (where $z_1 = z_0 (e_1/e)$), quad.3. At z_1 , the demand for n expands to D_1 , which is higher than the new low supply of n at n_1 ($D_1 > n_1$; quad.2). The economy thus moves to C (quad.4), indicating more excess demand in the non-tradables market.

(6) The excess demand for the non-tradables pushes P_n up \rightarrow P_n/P_m rises. Also, the rise in $P_n \rightarrow$ a fall in real income, $y^{(6)}$, shifting, thus, the demand curve D_n' to the left, say back to $D_n^{(7)}$. Equilibrium in the non-tradables market will be achieved

(4) Assuming that $\Delta MS > \Delta P$.

(5) For simplicity, we shall assume that, initially, no change occurs in real income, y , on the basis that the increase in P_m is totally compensated for by the increase in money income due to the increase in P_x . Accordingly, the impact of real income, y , on D_n curve will be neutralized. Otherwise, D_n curve would have been shifted to the right or to the left, depending on whether y has increased or decreased.

(6) With the initial increase in P_m due to the fall in e , and now the increase in P_n , the general price level, P , will rise more than the rise in money income (due to the rise in P_x), and hence real income, y , falls.

(7) Of course, the extent of the shift of D_n' to the left may be less or more than the original shift in D_n to D_n' . This means that the new demand curve may fall to the right or to the left of D_n , and does not necessarily coincide with it. The extent of the shift depends on the income elasticity of demand for n .

Figure (4)

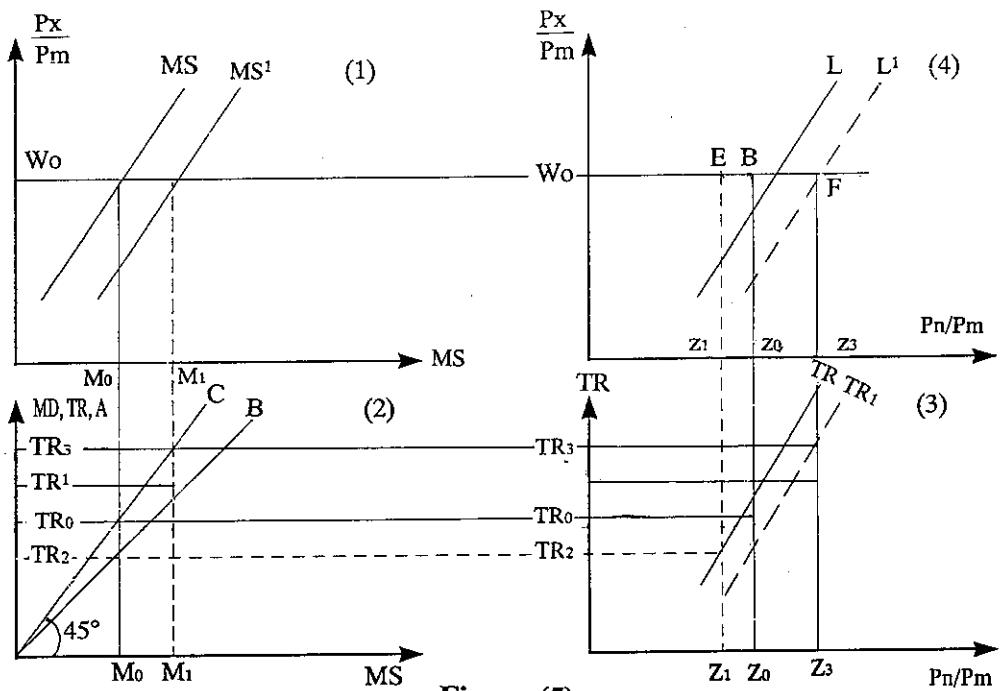
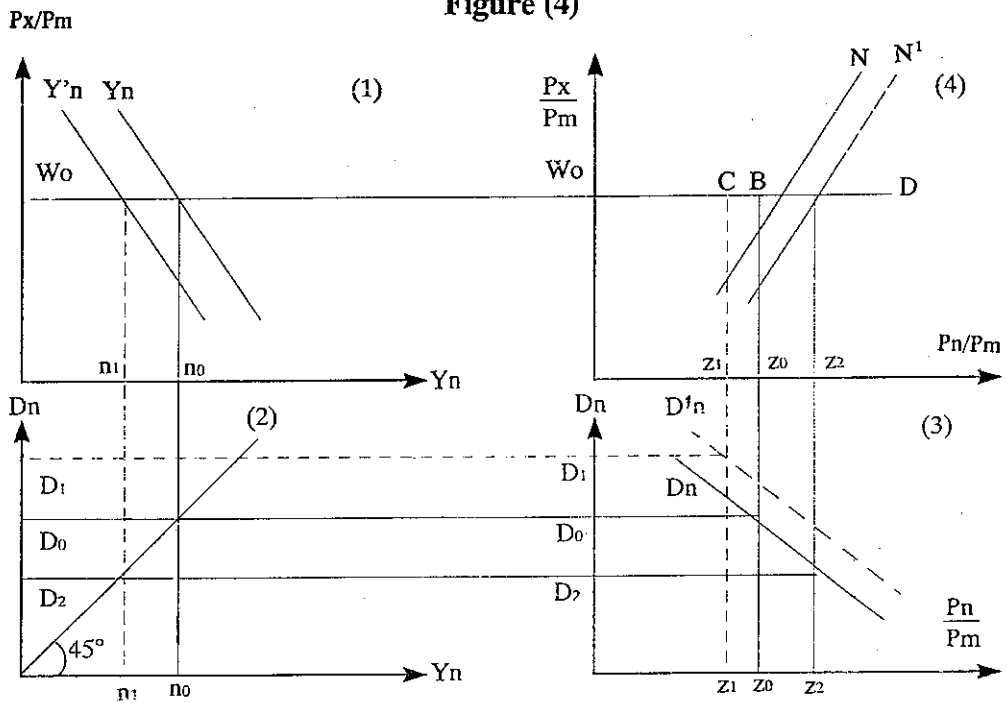


Figure (5)

when P_n/P_m rises to z_2 , the demand falls to D_2 (which is equivalent to n_1), and the exchange rate falls again from e_1 say to e_2 , where P_x/P_n at $e_1 = P_x/P_n$ at e_2 (i.e. $w_0/z_2 = w_0/z_1$)⁽⁸⁾, and the economy moves to D on the locus $N'N'$.

In the money market (Figure 5), the following changes take place, when e falls to e_1 :

(1) The money supply curve shifts from MS to MS' (see point 3 above); and the money supply increases from M_0 to M_1 (quad.1).

(2) The relative price of the non-tradables, P_n/P_m , falls from z_0 to z_1 (see point 5 above). At z_1 , the transactions demand for money falls from TR_0 to TR_2 (quad.3), which is below the level of the transactions demand for money, TR_3 , that is consistent with the new money supply M_1 (quad.2). Thus, the economy moves from B to E (quad.4), indicating more excess supply in the money market at the relative prices w_0 and z_1 .

(3) The excess demand in the non-tradables market at z_1 , pushes P_n/P_m up. Also, the rise in $P_n \rightarrow$ a fall in real income y (as explained in point 6 above) \rightarrow the transactions demand curve shifts downwards to TR' (quad.3). Equilibrium will be achieved in the money market, if the relative price of the non-tradables rises to z_3 , where the transactions demand for money increases to TR_3 (quad.3), which is equivalent to the new money supply M_1 . The economy moves to F on the new locus $L'L'$ in quad. 4, where equilibrium is achieved in the money market at the relative price w_0 and z_3 .

However, given the relative price of the exportables, w_0 , equilibrium in both the money market and the non-tradables market will be achieved, **only if** the relative price of the non-tradables that achieves equilibrium in the money market (z_3), is the same as the relative price that achieves equilibrium in the non-tradables market (z_2), which is not necessarily the case⁽⁹⁾. In other words, only if z_3 (in Figure 5) = z_2 (in Figure 4), will the loci $N'N'$ and $L'L'$ intersect at F (or D), since both points will coincide, and general equilibrium will be achieved in the economy, which means achieving equilibrium in the non-tradables market, money market, and hence in the balance of payments according to Walras LAW. However, general equilibrium will be achieved at a lower real income.

Case B (the price setters): The prices of exports are set by the exporting country.

-
- (8) If the exchange rate remains at e_1 , then $z_0/z_2 < w_0/z_1$ and the resources shift back from the production of exportables to the production of non-tradables, since the latter will become relatively more profitable. In this case, D will fall on a locus in between NN and $N'N'$.
- (9) For example at w_1 , w_2 can be greater than z_3 , if at z_3 there is excess demand for n , while there is no incentive to increase the supply, given P_x/P_n . In this case, the amount of money demanded for transactions at z_2 will be greater than the amount demanded at z_3 , and hence excess demand prevails the money market, while equilibrium exists in non-tradables market at z_2 .

In this case, devaluation will have the following effects in the non-tradables market (Figure 6) and money market (Figure 7), assuming that the initial position of the economy is at B. When e falls to e_1 , the following changes occur in the non-tradables market in Figure 6:

(1) Initially, there is no shift in the Y_n curve (quad.1) because P_x/P_n is unchanged.

(2) P_x remains as it is, while P_m rises $\rightarrow P_x/P_m$ falls from w_0 to w_1 (where $w_1 = w_0 (e_1/e)$), and moving along the Y_n curve, the supply of the non-tradables increases from n_0 to n_1 (quad.1), because of the increase in the production of the import substitutes as the result of the increase in $P_m^{(10)}$.

(3) The rise in $P_m \rightarrow$ increases the general price level $P \rightarrow$ real income, y , falls \rightarrow the demand curve D_n shifts to the left to D_n' , indicating a fall in demand for n at each level of P_n/P_m (quad.3).

(4) When P_m rises $\rightarrow P_n/P_m$ falls from z_0 to z_1 where $z_1 = z_0 (e_1/e)$. At z_1 , the demand for n increases to D_1 (quad.3), which is greater than the supply of the non-tradables, n_1 (quad.2). Thus, the economy moves to C (quad.4), with relative prices w_1 and z_1 , indicating more excess demand in the non-tradables market.

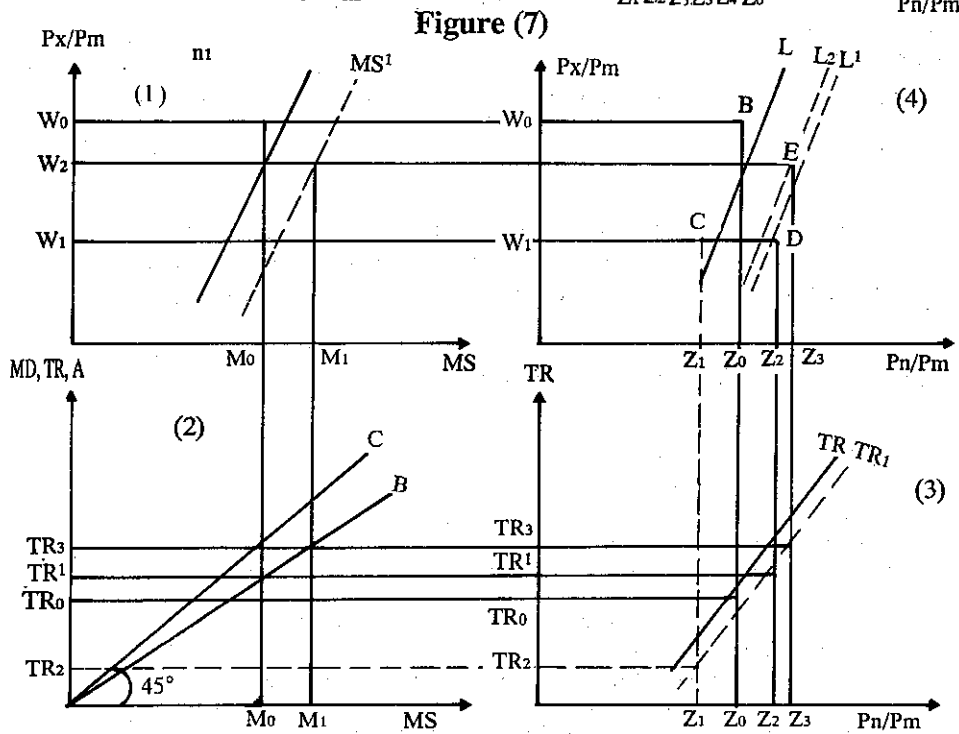
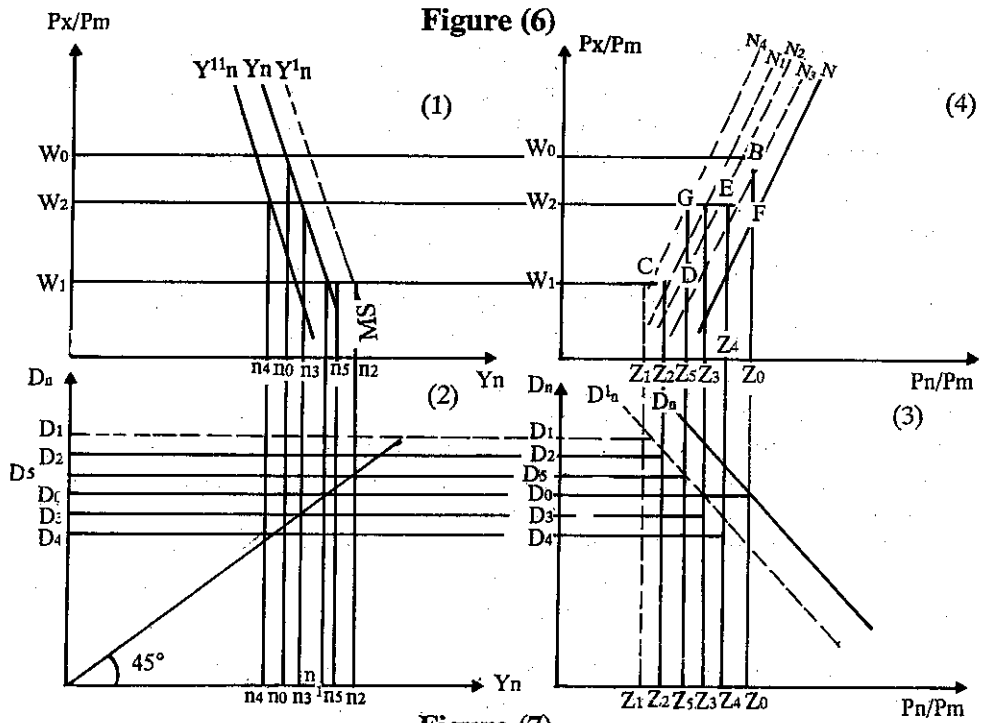
(5) The excess demand for n pushes P_n up. On the other hand, the fall in e to e_1 reduces the price of x in foreign currency, with P_x initially unchanged. With regard to the eventual production level of exportables (i.e., the eventual position of the Y_n curve in quad.1), we may distinguish two cases, depending on the elasticity of foreign demand for x :

(a) If the demand for x is highly inelastic, P_x will stay almost unchanged since the increase in the demand for x will be small. Hence, P_x/P_m will continue at w_1 . With the increase in P_n , because of the excess demand for n , P_x/P_n decreases $\rightarrow Y_n$ shifts to Y_n' , indicating the shift of resources towards the non-tradables⁽¹¹⁾. P_n/P_m rises eventually to z_2 (quad.3), where the demand for n falls to D_2 , which equals the supply of n at n_2 (quad.2). The economy moves to D on the Locus N_1 (quad.4), where equilibrium is achieved in the non-tradables market at the relative prices w_1 and z_2 .

(b) If the demand for x is elastic, the fall in e to e_1 will lead to expansion of the

(10) See footnote 4.

(11) This assumes that the convertibility between local and foreign currencies is unconstrained at the on-going exchange rate. If this assumption does not hold, then the fall in P_x/P_n does not necessarily lead to a shift in the Y_n curve towards the production of n , since the acquisition of foreign currency per se may be given higher priority as 'prestige' currency, or because of rising expectations that more devaluation will take place in the future and, hence, capital gain will occur.



demand for x significantly $\rightarrow Px$ rises $\rightarrow Px/Pm$ rises to w_2 in quad.1⁽¹²⁾. With the rise in Pn , because of the excess demand for n , we have one of three possibilities for Px/Pn , and hence for the production level of exportables, and the eventual equilibrium state in the non-tradables market. These possibilities are:

(i) If $\Delta Px = \Delta Pn$, the curve Yn (in quad.1) remains as it is; the production of n decrease from n_1 to n_3 indicating an increase in the production of x . Pn/Pm rises from z_1 to z_3 eventually, where the demand for n falls to D_3 (quad.3), which is equivalent to n_3 (quad.2). In this case, equilibrium in the non-tradables market will be achieved at E on the locus N_2 , at the relative prices w_2 and z_3 (quad.4).

(ii) If $\Delta Px \geq \Delta Pn$. If ΔPx is greater (smaller) than $\Delta Pn \rightarrow Yn$ curve shifts to the left (right) to Yn'' (Yn')⁽¹³⁾ in quad.1, indicating a shift in resources towards the exportables (non-tradables) \rightarrow the supply of the non-tradables decreases (increases) from n_1 to n_4 (n_5). Equilibrium in the non-tradables market will be achieved, when the relative price Pn/Pm increases from z_1 to z_4 (z_5), reducing the demand for n from D_1 to D_4 (D_5) in quad.3, which is the equivalent of n_4 (n_5) in quad.2. The economy moves, then, to F (G) on the new locus N_3 (N_4), where equilibrium will be achieved in the non-tradables market at the relative prices w_2 and z_4 (z_5).

The extent of the increase in Px -and hence of the change in Px/Pn and Px/Pm -depends on the relative responsiveness in the demand for and supply of x ⁽¹⁴⁾. The more elastic is the demand for x , the larger will be the increase in the quantity demanded with the fall in e ; and the more mobile is the movement of resources, the more responsive will be the supply increase of x to the rising demand.

In the money market, the following changes occur, when e falls to e_1 (see Figure 7):

(1) MS curve shifts to MS_1 (quad.1). Also, the fall in real income (y), as explained in point 3 above, shifts the TR curve downward to TR_1 , indicating a decrease in the transactions demand for money at each level of Pn/Pm (quad.3).

(2) As Px remains initially unchanged, Px/Pm falls from w_0 to w_1 , where the supply of money is M_0 , which is the same level that was prevailing at w_0 with the old exchange rate e ⁽¹⁵⁾.

(12) It is assumed that w_2 is less than w_0 , otherwise the impact of devaluation on increasing the demand for exports will be abolished, since the price of export in foreign currency will be increased to its original level to the foreigners, inspite of the low exchange rate at e_1 .

(13) It does not have to coincide with the Yn' in case (a) above, but for simplicity in the Figure drawing, we shall assume that it does.

(14) Assuming that the increase in the domestic cost of production will affect both Px and Pn equally, and hence its impact on Px/Pn is nil.

(15) This is because, inspite that less foreign exchange will enter the country at e_1 (because of the fall in the price of x in foreign currency), its equivalent in domestic currency will be the same as before, given the unchanged level of foreign demand for x initially.

(3) With the fall in $e \rightarrow P_m$ rises $\rightarrow P_n/P_m$ falls to z_1 (where $z_1 = z_0 (e_1/e)$). At z_1 , the transactions demand for money is TR_2 (quad.3), which is less than TR_1 , which is the level consistent with money supply, M_0 , at equilibrium, given the asset demand for money, A (quad.2).

(4) The economy moves initially to C (quad.4), where excess supply still prevails in the money market, at the relative prices w_1 and z_1 .

(5) The excess demand in the non-tradables market pushes P_n up, raising, thus, P_n/P_m from z_1 . Here we have one of two outcomes, depending on the elasticity of foreign demand for x .

(i) If foreign demand for x is completely inelastic, P_x/P_m will continue at w_1 . In this case, equilibrium in the money market will be achieved, when excess demand in the non-tradables market pushes P_n to the level, where P_n/P_m reaches z_2 . The transaction demand for money increases from TR_2 to TR_1 (quad.3), which is the equilibrium amount for the money supply M_0 (quad.2). Equilibrium in the money market will be achieved at D on the locus L_1 , with the relative prices w_1 and z_2 .

(ii) If foreign demand for x is elastic, P_x/P_m will be raised to w_2 , and the supply of money will increase to M_1 (quad.1). Equilibrium in the money market will be achieved, when P_n/P_m reaches z_3 (quad.3). TR_3 is the level consistent with M_1 at equilibrium, given A (quad.2). Thus, the economy moves to E (in quad.4), where equilibrium is achieved in the money market, at the relative prices w_2 and z_3 .

However, as mentioned before, overall equilibrium in the economy -i.e. equilibrium in both money and non-tradables markets, and hence in the balance of payments-will not be achieved unless the relative prices P_x/P_m and P_n/P_m that achieve equilibrium in the money market, are the same relative prices that restore equilibrium in the non-tradables market. In other words, overall equilibrium will not be achieved unless the loci NN and LL intersect, and one equilibrium set of relative prices (P_x/P_m and P_n/P_m) prevail in both non-tradables and money markets.

4. Concluding Remarks:

The overall equilibrium is attained in the price taker's country, case A (Figures 4 & 5), at D (& F), and in the price setter's country, case B (Figures 6 & 7), at D (& D), or at E (& E), or at G (& E), depending on the elasticity of demand for x , and the extent of the increase in P_x as compared to P_n . Comparing the relative prices, and the output mix at the alternative equilibrium points in cases A and B, one finds the followings:

1 - The overall equilibrium point in case A (D & F) falls to the right of the initial loci NN and LL , while all the alternative equilibrium points in case B fall to the left of the loci NN and LL . This indicates that the overall equilibrium is achieved at higher relative prices for exportables, P_x/P_m , and for non-tradables, P_n/P_m , in case A as compared to case B.

2 - In case A, the agricultural output mix at equilibrium is in favour of more exportables, vis-a-vis non-tradables since Y_n curve shifts to the left to Y_n' during the adjustment process; while in case B, the agricultural output of the exportables will increase during the adjustment only if the demand for x is elastic, and also, if the excess demand prevailing in the non-tradables will not be as much as to push P_n up to a level higher than P_x at e_1 ; i.e. if $\Delta P_n < \Delta P_x$. However, if the demand for x is elastic, but P_n is pushed up just to the level of P_x or higher (due to expansionary policies, for example), the agricultural output mix at equilibrium will remain as it was before (if $\Delta P_n = \Delta P_x$), or it will be changed in favour of more non-tradables vis-a-vis exportables (if $\Delta P_n > \Delta P_x$).

Reveiwng the current situation of the developing countries that suffer from economic disequilibrium, one finds that many of them are price-takers on the world market with respect to agricultural exports; i.e., they fall within case A. Thus, adjustment with currency devaluation in those countries is expected to lead to the allocation of agricultural output towards more exportables and against non-tradables, but at the expense of lower real income, higher prices and more devaluation in the exchange rate. Coupling devaluation with contractionary policies will decrease the inflationary impact, but the level of prices prevailing will still be relatively higher than in the case of the price-setters (i.s., countries of case B). The final outcome of the contractionary policies will be to shift the equilibrium points to the left in cases A and B⁽¹⁶⁾.

References:

- Dornbush, R. & F. Leslie C.H. Helmers (eds.). **The Open Economy: Tools for Policymakers in Developing Countries**, published for the World Bank, New York, Oxford University Press, 1988.
- Havrilesky, T.M. & J.T. Boorman (eds.). **Current Issues in Monetary Theory and Policy**. 2nd edition, Arlington Heights, AHM Publishing Corporation, 1980.
- Korayem, K. **Terms of Trade Shocks: A Graphical Analysis**, The World Bank, Social Dimensions of Adjustment Project Unit, Africa Region, December, 1990.

(16) For an illustration of how expansionary monetary and fiscal policies affect equilibrium in the non-tradables and money markets using the model, see Korayem (1990: p.14-17).