Journal of Development Economics 21 (1986) 229–234. North-Holland

INTERNATIONAL MIGRATION, REMITTANCES AND WELFARE IN A DEPENDENT ECONOMY

Slobodan DJAJIĆ*

Queen's University, Kingston, Ont., K7L 3N6, Canada

Received May 1984, final version received December 1984

This note extends the work of Rivera-Batiz (1982) in an attempt to examine the role of remittances in determining the effects of migration on the welfare of the remaining residents in a small open economy producing both traded and non-traded goods. It is shown that if the flow of remittances exceeds a certain critical amount, the remaining residents benefit from migration even if they do not receive any of the remittances themselves. This is in sharp contrast with the results of the Rivera-Batiz model in which the possibility of a gain for the non-migrants is ruled out.

1. Introduction

In a recent article in this *Journal*, Rivera-Batiz (1982) presented an interesting new argument in support of the view that emigration adversely affects the economic well-being of the country's remaining residents (RRs). Using the Salter (1959) model of a small open economy producing both traded and non-traded goods, he showed that emigration lowers the welfare of non-migrants if the average amount of capital owned and removed from the country by the migrants differs from the economy's aggregate capital–labor ratio. The essence of his argument is that emigration reduces the consumption possibilities of the RRs by depriving them of the opportunity to trade with the migrants in the market for (internationally) non-traded goods. Welfare of the RRs remains unchanged only if the economy's capital–labor ratio is unaffected by migration.

The purpose of the present note is to extend the Rivera-Batiz model by considering the possibility that the migrants may remit a fraction of their income to family members who continue to reside in the source country. The practice of remitting such payments has become common in the post-war era and the magnitude of remittances has been substantial. In the case of a number of developing countries, these flows constitute a significant fraction

*I wish to thank a referee of this Journal for helpful suggestions.

of total foreign-exchange earnings.[1] Remittances have also been large in relation to the income earned by migrants in the host country.[2] Taking for granted that such payments improve the welfare of direct recipients, our objective is to show that even the RRs who are unrelated to migrants may benefit from emigration of their countrymen if the flow of remittances is sufficiently large. This is in sharp contrast with the much more pessimistic conclusions reached by Rivera-Batiz.

2. Remittances and welfare

How does the possibility of a gain arise in the presence of remittances? Following Rivera-Batiz, let us assume that all residents have identical and homothetic preferences. Because remittances must be in the form of traded goods, it follows that the beneficiaries of such payments will find it necessary to exchange a fraction of their receipts for non-traded goods. Hence, while emigration rules out the possibility of trade in the market for non-traded goods between the migrants and the RRs, it offers the latter group new trading opportunities in that same market as the families of migrants attempt to achieve their desired pattern of consumption. By creating such new opportunities for trade, emigration may give rise to an improvement in welfare of even those RRs who do not benefit directly from the remittances themselves.

Before showing this result, it is useful to summarize Rivera-Batiz's very elegant diagrammatic proof which employs the technique developed by Bhagwati and Brecher (1980). The main argument is as follows: suppose the economy has two factors of production (capital and labor) which are perfectly mobile between sectors. One of the sectors produces traded (T) and the other non-traded goods (N). The technology of both sectors is constant-returns-to-scale, and the economy is assumed to be free of distortions. Thus, in fig. 1, let AA represent the economy's pre-migration production-possibilities frontier (PPF) relating the maximum output of T to any given output of N. Balanced commodity trade and equilibrium in the market for non-traded goods implies that the economy must be producing and consuming the

[1]As reported by Swamy (1981), in 1978–1979 the ratio of remittance flows to merchandise exports was 0.888 for Egypt, 0.513 for Morocco, 0.765 for Pakistan, 0.689 for Portugal, 0.767 for Turkey, 0.425 for Yugoslavia, and for the Yemen Arab Republic, a country that is nearly specialized in the export of labor to its oil-rich neighbors, the ratio was 70.913. See also Richards and Martin (1983) for an analysis of the role of remittances in the labor-exporting countries of the Middle East. In the trade-theoretic literature, the role of remittances has been studied by Krauss (1976). Of related interest are the works of Djajić and Milbourne (1984) and Srinivasan (1983).

[2]In Germany in 1972, for example, remittances amounted to over 25% of the average disposable income of migrants, while for unaccompanied married men they were about 45% [Blitz (1977, pp. 498–499)]. For the figures on other European countries, see Macmillen (1982) and the references cited therein.

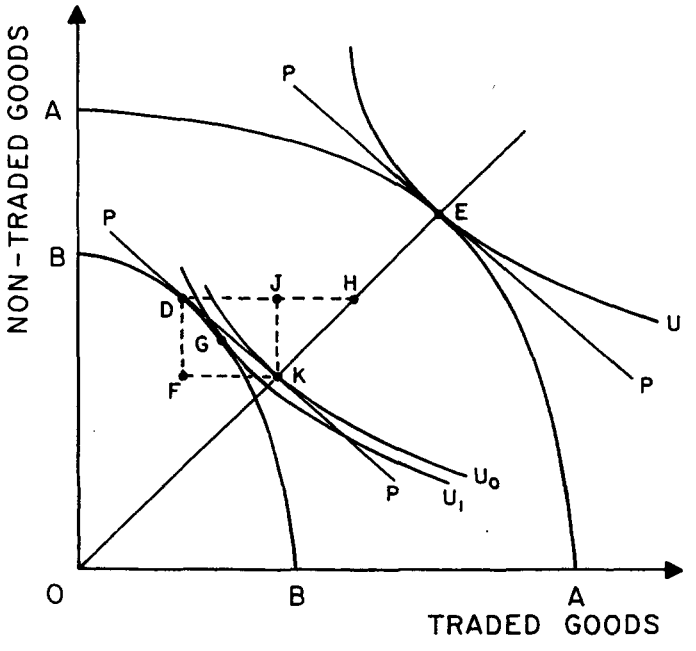

Fig. 1

bundle of goods represented by E, the point of tangency between AA and the social indifference curve U. The relative price of traded in terms of non-traded goods is given by the slope of the PP line.

Let us assume that after the migrants leave the country (along with their capital), the economy's PPF becomes the curve BB.[3] Thus, if we were to isolate the factor endowment of the RRs in the pre-migration equilibrium, it would produce the bundle of goods represented by point D. The pre-migration consumption bundle of the RRs is therefore given by K, the point of intersection between the income–consumption ray OE and a tangent to BB with the slope corresponding to the prevailing price ratio. As illustrated in the figure, in order to attain this consumption bundle, the RRs must exchange DF units of N for FK units of T with the (potential) migrants. Because such opportunities to exchange N for T vanish in the post-migration equilibrium, it follows that emigration restricts the consumption possibilities of the RRs to the set given by BB. Consequently, their consumption (and production) point moves to G, which necessarily lies on a lower indifference curve than the pre-migration consumption point K.[4]

Consider next the effect of remittances on the post-migration equilibrium. Since the remaining population consists of two distinct groups, those who receive such payments and those who do not (because they are unrelated to

[3]The difference in the shape of BB relative to that of AA reflects the assumption that the economy's factor-endowment ratio is altered as a result of migration.

[4]The only exception is if the economy's endowment ratio of capital to labor is unaffected by international migration. In that case, points G and K coincide and welfare of the RRs is unaffected by emigration.

migrants), we shall refer to members of the former group as the related remaining residents (RRRs) and those of the latter as the unrelated remaining residents (URRs). Moreover, let us assume that the RRRs do not engage in any economic activity other than the exchange and consumption of remittances.[5] The curve *BB* may then be regarded as the PPF of the URRs.

Let us suppose that *DH* units of T are remitted by the migrants to the RRRs. If the commodity price ratio is given by the slope of *PP*, the RRRs will consume N and T in the proportions given by the slope of *OE*. This requires that they exchange with the URRs *DJ* units of T for *JK* units of N. In doing so, the recipients of remittances offer to the URRs the same trading opportunity that was available in the pre-migration equilibrium. Thus, if the flow of remittances amounts to exactly *DH* units of T, relative commodity prices will indeed remain unaffected by migration. A larger transfer, however, gives rise to an excess demand for N at the original price ratio. This entails an increase in the relative price of N, leading to an actual *improvement* in welfare of the URRs. Alternatively, if remittances fall short of *DH* units, consumption possibilities of the URRs are reduced by migration.

Consider next the case in which the remaining residents are net buyers of N in the pre-migration equilibrium. This is depicted in fig. 2. In the absence

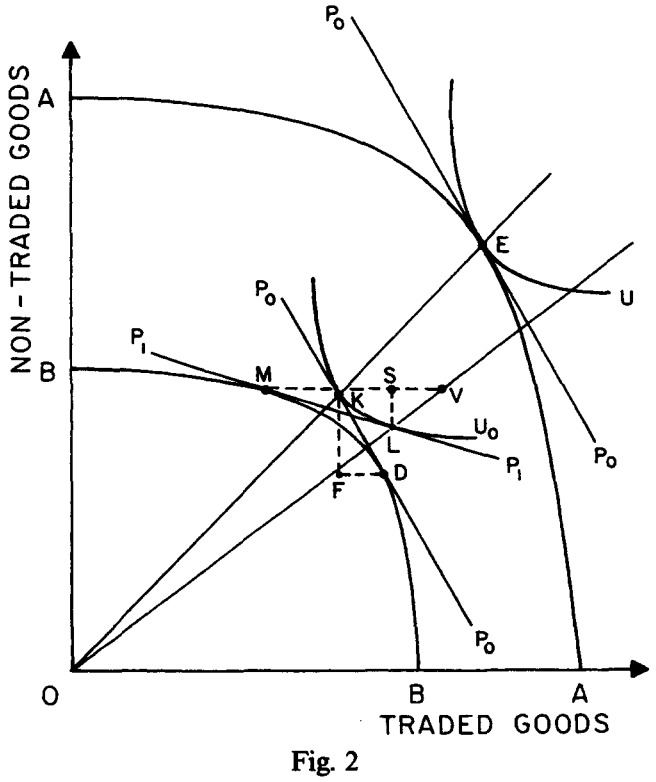

Fig. 2

[5]The distinction between the RRRs and URRs is purely functional, with each of the remaining residents playing the role of an 'unrelated' remaining resident and a subset of them also playing the role of a 'related' remaining resident. As stated earlier, our main concern is with the effects of migration on welfare of the RRs in their role as the URRs.

of migration, the economy is producing and consuming at point E and the commodity price ratio is given by the slope of P_0P_0. Once again, BB represents the hypothetical PPF reflecting the endowment of factors of the URRs. As shown in the figure, this group attains the level of utility U_0 by exchanging FD units of T for KF units of N in the pre-migration equilibrium. Once the migrants leave the economy, this trading opportunity is no longer present. However, new opportunities emerge as remittances begin to flow into the economy. One possibility is that exactly MV units of T are remitted to the RRRs. By adding to the relative scarcity of non-traded goods within the economy, these remittances drive up the relative price of N to the level indicated by the slope of P_1P_1. At that price ratio, the economy's production and consumption points are M and V, respectively. The difference between the two points is MV units of T transferred from abroad. In maximizing utility, the RRRs exchange MS units of T for SL units of N with the URRs. This enables the latter group to consume at L, a point which lies on the same indifference curve as the group's pre-migration consumption point K. Thus, the level of welfare of the URRs need not decline in the post-migration equilibrium even if they were initially net buyers of N.

It is also possible for remittances to exceed MV units of T. In this case the equilibrium relative price of N is even higher than that indicated by the slope of P_1P_1. Noting that the URRs are net sellers of N when remittances amount to MV units of T, a further rise in the relative price of N is an improvement in their 'terms of trade'. This enables them to attain a higher level of utility than that enjoyed in the absence of migration.

3. Concluding remarks

By introducing remittances into the Rivera-Batiz model, this note has shown that emigration need not reduce the welfare of those left behind. If the flow of remittances exceeds a certain critical amount, the remaining residents were seen to *benefit* from migration even if they do not receive any of the remittances themselves.

It should also be pointed out that the present analysis is relevant even if the migrants do not transfer any income to their relatives in the source country. To see why this is the case, imagine that the so-called remittances are instead units of T which the migrants use to finance their personal consumption of both T and N on visits to the source country. Another possibility is to interpret remittances as the level of consumption (measured in terms of T) of retired migrants who have resettled in the source country in order to consume what they have saved abroad. Alternatively, remittances may be viewed as flows of foreign aid induced by the lobbying activities of the migrants in the host country on behalf of the source country. Thus, regardless of which interpretation of the word 'remittance' is most relevant to

the case at hand, the possibility that migration improves the welfare of remaining residents cannot be ruled out. It is interesting to note that a number of countries in the Mediterranean basin have even encouraged emigration with the hope that the resulting flow of remittances would be large.[6]

References

Bhagwati, J.N. and R. Brecher, 1980, National welfare in an open economy in the presence of foreign-owned factors of production, Journal of International Economics 10, 103–115.

Blitz, R.C., 1977, A benefit–cost analysis of foreign workers in West Germany, 1957–1973, Kyklos 30, 479–502.

Chandavarkar, A.G., 1980, Use of migrant's remittances in labor-exporting countries, Finance and Development 17, no. 2, 36–39.

Djajić, S. and R. Milbourne, 1984, Guest-worker migration, Unpublished manuscript (Queen's University, Kingston).

Krauss, M.B., 1976, The economics of the 'guest worker' problem: A neo Heckscher–Ohlin approach, Scandinavian Journal of Economics 78, 470–476.

Macmillen, M.J., 1982, The economic effects of international migration, Journal of Common Market Studies 20, 245–267.

Mehrländer, U., 1980, The 'human-resource' problem in Europe: Migrant labor in the Federal Republic of Germany, in: U. Ra'anan, ed., Ethnic resurgence in modern democratic states (Pergamon, New York) 77–100.

Richards, A. and P.L. Martin, 1983, The laissez-faire approach to international labor migration: The case of the Arab Middle East, Economic Development and Cultural Change 31, 455–474.

Rivera-Batiz, F., 1982, International migration, non-traded goods and economic welfare in the source country, Journal of Development Economics 11, 81–90.

Salter, W.E.G., 1959, International and external balance: The role of price and expenditure effects, Economic Record 35, 226–238.

Srinivasan, T.N., 1983, Internal factor movements, commodity trade and commercial policy in a specific factor model, Journal of International Economics 14, 289–312.

Swamy, G., 1981, International migrant workers' remittances: Issues and prospects, World Bank Staff working paper no. 481 (World Bank, Washington, DC).

[6]See Mehrländer (1980). Chandavarkar (1980) discusses policies that have been employed by the labor-exporting countries in an attempt to attract remittances. See also Swamy (1981).