Labor Mobility, Remittances, and International Trade: Theoretical Aspects[1]

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Мобильность рабочей силы, денежные переводы и международная торговля: теоретические аспекты

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Аннотация: Данная статья посвящена теоретической литературе по движению труда, денежным переводам и торговле. Во-первых, в статье представлены теория факторной мобильности и торговли в соответствии с существующей теоретической работой по факторной мобильности модели Хекшера-Олина, а также проведен обзор литературы по влиянию миграции на торговлю. Согласно этим анализам, в теоретической литературе нет строгих доказательств влияния миграции на торговлю. Вместо этого в эмпирической литературе более подробно рассматриваются поведенческие проблемы, которые основаны на идее о том, что миграция способствует развитию торговли.
В статье также рассмотрена еще одна актуальная в теоретической литературе проблема - связь между миграцией, денежными переводами, торговлей и благосостоянием. Согласно данным работам трансферты ведут к увеличению цен в не торговом секторе, также при высоких объёмах трансферты имеют негативное влияние на страну-получателя.
Ключевые слова: теоретическая литература по движению труда, модель Хекшера-Олина, международная торговля, миграция, «проблема трансфертов»

Աշխատանքի շարժունակություն, դրամական փոխանցումներ և միջազգային առևտուր. տեսական ասպեկտներ

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[1] Հետազոտությունն իրականացվել է ՀՀ գիտության կոմիտեի ֆինանսական աջակցությամբ (Թեմայի ծածկագիր՝ **22YR-5B036**)։
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Ամփոփագիր. Սույն հոդվածը նվիրված է աշխատուժի շարժի, տրանսֆերտների և առևտրի ուսումնասիրության տեսական գրականության վերլուծությանը: Նախ, աշխատությունում ներկայացվում է գործոնների շարժունակության և առևտրի տեսությունը՝ Հեքշեր-Օհլինի մոդելի վրա հիմնված գործոնների շարժունակության վերաբերյալ առկա տեսական աշխատանքը, ինչպես նաև ուսումնասիրվում է առևտրի վրա միգրացիայի ազդեցության վերաբերյալ տեսական գրականությունը: Համաձայն կատարված վերլուծության՝ տեսական գրականությունը չի անդրադառնում առևտրի վրա միգրացիայի ազդեցության վերաբերյալ որևէ ապացույց: Փոխարենը, էմպիրիկ գրականությունն ավելի մանրամասն անդրադառնում է վարքագծային խնդիրներին, որոնք հիմնված են այն գաղափարի վրա, որ միգրացիան նպաստում է առևտրին:
Հոդվածում դիտարկվում է նաև տեսական գրականության մեկ այլ արդիական խնդիր՝ միգրացիայի, տրանսֆերտների, առևտրի և բարեկեցության հարաբերությունները: Ըստ այդ աշխատանքների՝ տրանսֆերտները հանգեցնում են գների աճի ոչ առևտրային հատվածում, իսկ մեծ ծավալներով փոխանցումները բացասաբար են ազդում ստացող երկրի վրա:
Հանգուցաբառեր՝ տեսական գրականություն աշխատուժի շարժի վերաբերյալ, Հեքշեր-Օհլինի մոդել, միջազգային առևտուր, միգրացիա, «տրանսֆերտների խնդիր»

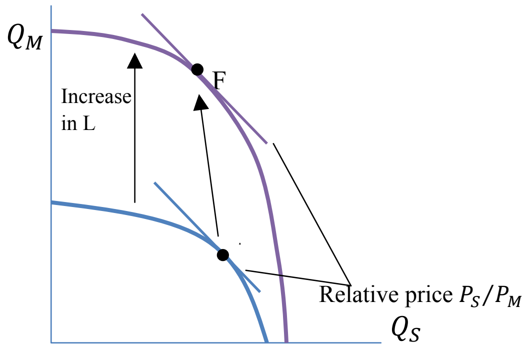
Different theories hypothesize that some specific differences between countries constitute the basis for international trade. Those assumptions predominantly revolve around factors of production. For instance, Ricardo argues that, due to the differences in factor productivities, countries tend to specialize, depending on their comparative advantages, which create incentives to trade [**6**]. In the Heckscher-Ohlin model (HO), differences in relative factor endowments are believed to facilitate trade [**15**]. While there is no rigorous evidence in the theory on the link between trade and migration, the main debate is whether trade and factor movements are substitutes or complements [**5**].

Factor Mobility and International Trade

The existing theoretical work on factor mobility chiefly builds upon the Heckscher-Ohlin model. The model is thus presented briefly, to interpret the possible consequences that can be immense due to labor migration. In the Heckscher-Ohlin model, two factors (labor and capital) and two sectors (S and M) are considered. In the long run, the factors are mobile between the sectors, so the returns to factors are equal across industries. Let S employ a relatively higher amount of capital per worker per unit of output, compared to M which uses a smaller capital-labor ratio. Hence, S is capital-intensive, and M is labor-intensive. Since these ratios tend to be constant, the impacts of labor movement across countries differ from those observed in the short-run specific-factors model [**6**].

Immigration to a country alters the allocation of endowments as the economy absorbs the labor by adjusting its output in both sectors. The labor-intensive industry M experiences growth in its output volume because the extra workforce is allocated in this sector, and some amount of capital and labor are withdrawn from S. Thus, as shown in Figure 1 (point F), the output of good S will decline [**13**].

Figure 1. *Increase in labor and the shift in the production possibilities frontier of home in the Heckscher-Ohlin model*



Source: *Authors' elaboration* [**6**, p. 142].

The HO model demonstrates that factor prices do not respond to the influx of labor to the recipient country because the input ratios do not change, and over time, producers adapt the output to the changes in the factor endowments [**6**, p. 142].

Now, let us suppose there are two countries A (labor-abundant) and B (capital-abundant). Because in the Heckscher-Ohlin model, trade is conditioned by the differences in the labor endowments of countries, to meet the consumption demand, the two countries engage in trade. According to the Heckscher-Ohlin theorem, country B exports the commodity which is capital intensive (S) (abundant factor) and imports the labor-intensive commodity (M) (scarce factor) [**6**]. The opposite holds for country A. As the countries open for trade, the producers' demand for their abundant factors increases to augment the production volumes of the exportable good at relatively cheaper prices. Similarly, the demand for the scarce factors – that are intensively employed in the production of importable goods – contracts. This implies that the wage/rental ratio will increase in A and decrease in B, eventually leading to the convergence in the factor prices across countries (factor-price equalization theorem). In other words, the abundant factor owners gain from trade, while the owners of scarce factors lose [**14**]. If applied to labor migration, this theorem would imply that trade and migration are substitutes because migration is believed to be driven by cross-country differences in expected returns to labor[1]. Thus, the factor-price equalization would converge the incomes in trading partner countries, reducing the incentives for people to migrate.

Similarly, migration would depress trade. More specifically, according to Rybczynski theorem, the increase in the labor stock in the country B incurs an absolute expansion in the production of the good M and a decline in the output of the capital-intensive good S, given the constant factor input proportions per unit of output [**13**, pp. 337-338]. Such biased growth toward one of the sectors will induce changes in the trade patterns. As the production possibilities expand, the income grows, consequently, there will be a corresponding proportional shift in the consumption of both products due to homothetic preferences [**13**]. In this case, the country will experience a drop in the relative cost of production of the imported good M; thus, the incentives to trade will decrease because, according to Rybczynski, in the long run, the country adjusts its production and produces more of the imported good (labor-intensive) and less of the capital-intensive good. Therefore, the volume of trade is predicted to contract for both goods.

Building upon the Heckscher-Ohlin-Samuelson model, in his seminal paper [**10**] shows that trade and factor mobility are substitutes. If factors are perfectly mobile across countries, trade volumes will decline (alternatively, trade liberalization will reduce migration). He shows that factor-price equalization brings to commodity-price equalization. For instance, assuming tariffs on the imported good S in country A, the relative price of this good increases and shifts both capital and labor from the production of the good M into this sector. Because of the higher marginal product of capital in country A, compared to B, the capital will flow to country A, making it capital-abundant. Thus, the perfect mobility of factors will further reduce the differences in the marginal product of factors across countries, and equalize the prices across countries, consequently reducing the need for trade [**10**, pp. 321-326].

Markusen (1983), on the contrary, proves that the substitutability of trade in factors and trade in commodities holds only in the Heckscher-Ohlin-Samuelson framework. Shall any of its basic assumptions be relaxed, these assumptions themselves will create incentives for trade; thus, trade in commodities and factor movement will be complements. The author presents several models that oppose HO hypotheses, i.e., differences in production technology, monopolistic competition, taxes, returns to scale, and factor market distortions. Based on those models, Markusen concludes that the differences in factor endowments occur due to trade and factor mobility. In other words, factor movements make a country abundant in the factor that is used intensively in its export good, creating an advantage and, in turn, further generating trade [**9**].

Discussing the theory, [**5**] point out that the theoretical literature usually treats the international movement of capital and labor as similar processes; however, there is a crucial difference between these two, associated with behavioral factors. As such, the theoretical literature abstracts from this fact, assuming homogenous tastes in home and host countries, which might be driving the conclusion that trade and migration are substitutes. Yet if assumed that immigrants prefer the goods that originate in their home countries, migration would foster trade. Thus, there is no rigorous evidence on the trade-creating effects of migration in the theoretical literature. Instead, the behavioral issues are more thoroughly addressed in the empirical literature, which is built upon the idea that migrant networks foster trade [**9**, pp. 2016-2018].

Remittances and "the Transfer Problem"

A further concern in the theoretical literature is the link between migration, remittances, trade, and welfare. The outcomes from positive transfers of resources to a country are believed to be ambiguous as well and are referred to as a "transfer problem". While Keynes (1929) finds that such transfers may deteriorate the terms of trade of the donor country making its exports cheaper [**7**], Ohlin opposes, suggesting that it must not necessarily bring to certain unfavorable conditions for either side [**8**]. Yet Djajić, Lahiri, and Raimondos-Moller (1998) rather rely on the characteristics of donor and recipient countries. They argue that if the bilateral trade between countries grounds on the differences in consumption preferences, the donor country will

[1] According to Hicks (1932, p. 76) (as cited [4, 329]), the primary determinant of migration is the divergence in the economic advantages across countries or regions, especially the differences in wages.

face improved terms of trade. In the case the trade is driven by the differences in factor endowments, the effects will depend on the intertemporal substitution elasticities of consumption [**3**].

As for the recipient countries, it is argued by Obstfeld and Rogoff (1996) (as cited in [**1**, p. 1408]) that the inflow of additional liquidity undermines the export competitiveness of the recipient country in world markets through a real exchange rate appreciation. In fact, a positive transfer of income to a country may have different consequences, depending on the marginal propensity to consume.

Apart from these, there are a few theoretical models on remittances, which do not refer to international trade, instead, those papers are concerned with the impact of emigration and remittances on the development and welfare of migrant-origin countries (i.e. [**2**; **11**; **12**]). For instance, Rivera-Batiz shows that emigration deteriorates the welfare of non-emigrants, leading to worse consumption opportunities and consequently higher prices of non-tradable goods [**12**], while Quibria (1988) criticizes the model and includes the ownership of capital [**11**]. The author concludes that emigration increases the capital per non-emigrant labor unit, generating positive income effects. At the same time, the economy is capable of producing a greater amount of the tradable (capital-intensive) good, albeit at higher prices. Djajić (1986) also builds upon Rivera-Batiz's model, embedding remittances into the model and proving that the welfare of non-movers (and non-recipients) is not necessarily affected adversely if the remittance influx is sufficiently high [**2**].

The discussion of the theoretical literature on the movement of labor and capital allows us to conclude that no theoretical model fully considers the complexity of the migration process (that includes remittance flows), which affects the economy, trade patterns, and welfare through the shifts in endowments of both the labor and the capital. Firstly, while the theory discusses remittances from the point of their impact on welfare, it leaves out the possible effects of remittances on trade between countries. Secondly, the economic theory, as such, views the international movement of capital and labor as similar processes, neglecting the crucial difference between capital and labor: the behavioral factors in the case of the labor movement [**5**].

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