

Migration

The Controversies and the Evidence

Edited by

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1 Trade and migration: an introduction¹

RICCARDO FAINI, JAIME DE MELO AND
KLAUS F. ZIMMERMANN

International migration is the absentee in the current wave of globalisation, particularly in Europe. Helped by falling communication and transportation costs and by the reduction in policy barriers to commodity and capital flows, trade flows and foreign direct investment (FDI) have increased in the last 20 years at a faster rate than world production. Migration flows, on the other hand, have shown little change during the same period when one excludes the temporary surge following the collapse of the socialist regimes in Eastern Europe. This contrasts sharply with previous integration episodes: in the nineteenth and early parts of this century, but also in the 1960s, international labour mobility played a central role in fostering economic integration.

The changing stance towards migration policies goes a long way in explaining these trends. At the turn of the century, the attitude toward immigration used to be quite liberal. Similarly, in the 1960s governments in receiving countries often took an active role in encouraging migration. Nowadays, the policy imperative has become to limit or even to stop any further immigration. In part, this new attitude reflects the fears that immigration may worsen the domestic income distribution by widening the skilled–unskilled wage gap and aggravate unemployment.² There is little evidence, however, that these concerns are well founded. Nonetheless, recent popular thinking in receiving countries has it that migration is excessive³ and therefore detrimental to the welfare of natives, and that this somehow provides a reason for highly restrictive policies. Clearly, the negative stance toward immigration reflects more than simple economic concerns. Those opposing immigration fear that it may exacerbate social tensions and blur national identities in host countries as well as aggravate domestic economic problems.

Pressures to tighten immigration laws have been quite strong, particularly in Europe. However, immigration policies remain a highly divisive issue in many receiving countries. Attempts to tighten such policies have typically led to bitter conflicts among domestic constituencies. They also

irritate relationships with sending countries that rely on emigration to alleviate structural imbalances in their labour markets and earn valuable foreign exchange through workers' remittances. Finally, and perhaps more crucially, immigration controls have so far proved to be quite ineffective in stemming undesired population inflows.

Are there more palatable alternatives for migration policies? If trying to control the symptoms does not work, treating the problem directly by promoting equitable and sustained growth in origin countries might be more effective. Trade integration seems a particularly commendable strategy to alleviate migration pressure, for at least two reasons. First, trading goods represents a way to exchange the services of the factors embodied in those goods. To the extent that barriers to trade are eliminated and commodity trade increases, the exchange of factor services will also increase and therefore the incentive for factors to move should diminish, in which case, as shown by Mundell (1957), trade in goods and the international mobility of factors are 'substitutes'. Second, deeper trade integration is often advocated as a means to achieve faster convergence between countries with different income levels. The EU experience, where poorer regions have been rapidly catching up with relatively better-off regions, is often cited as evidence (Ben-David, 1993). US and, to a lesser extent, EU policy-makers seem to be convinced by these arguments and have negotiated integration agreements with their relatively poorer neighbours. Yet, both theoretical and empirical evidence on the effectiveness of trade integration is far from being conclusive.

In sum, the debate on immigration is still occupying centre stage, and is the subject of much research. This volume hopes to shed new light on this debate by bringing together studies that investigate the link between trade and factor mobility, particularly labour migration, both from theoretical and empirical points of view. In this Introduction, we highlight the main issues and controversies, describing the new evidence brought by the chapters in the volume. Section 1 gives evidence on the importance of international migration. Section 2 briefly introduces the debate and surrounding controversies indicating in passing the dimensions that go beyond the trade-migration link. The remaining sections introduce the contributions in the volume. Section 3 discusses theoretical contributions on the links between trade and migration, while section 4 indicates attempts to model these links and section 5 discusses the evidence from historical and contemporary episodes. Section 6 draws some conclusions for policy implications.

1 Trade and migration : the main trends

Trade flows have increased at a systematically faster rate than production during most of the post-war era. For example, during the 1980s, world trade

Table 1.1. *Foreign population, early 1980s and early 1990s (per cent of total population)*

	Early 1980s	Early 1990s
Belgium	9.0	9.1
France	6.8	6.3
Germany	7.4	8.5
Italy	0.7	1.7
UK	2.8	3.5
USA	6.2	7.9
Canada	16.1	16.1

Source: SOPEMI (1995).

increased at 4.1 per cent per annum while output grew at 3.1 per cent. This pattern has been even stronger in the 1990s with trade growing at 9.2 per cent in 1994–5 and output at 2.9 per cent. Growth in FDI was even stronger. According to UNCTAD, FDI growth between 1981 and 1993 was almost double that of exports. Multinational corporations now account for two-thirds of world trade.

This expansion in trade and foreign investment largely reflects an increasingly liberal trade regime brought about by the successful negotiations of the Uruguay Round that achieved significant tariff reductions, particularly in those countries where tariffs were initially high (Finger *et al.*, 1996). More importantly it extended the rules of GATT and of the WTO to hitherto exempted or excluded sectors such as textiles, agriculture and services. Similarly, the policy climate for foreign investment has become steadily more liberal. An UNCTAD survey of some 60 countries shows that out of 212 legislative changes during 1993–4, 209 went in the direction of a more liberal FDI framework (UNCTAD, 1995).

International labour flows, however, have not followed suit. Consider table 1.1 that provides data for the 1980s. The share of foreigners in the population barely changed during the decade in most European countries and Canada, though it registered a significant increase in the USA. This is not because the propensity to migrate has declined. Quite the opposite: income and wage differentials between rich and poor countries have, if anything, increased during the period. Moreover, falling communication and transportation costs mean that residents in sending countries are increasingly well informed about economic conditions in receiving countries and can afford more easily than in the past the cost of migrating.

Table 1.2. *Intercontinental migration, 1871–1913*

a European emigration (per cent of home-country population)

	1871–80	1901–10	1913
Austria-Hungary	0.03	0.48	0.61
British Isles	0.50	0.65	1.04
Germany	0.15	0.05	0.04
Ireland	0.67	0.70	0.68
Italy	0.11	1.08	1.63
Spain	0.36	0.57	1.05

b Immigration from Europe (per cent of the host country population)

	1871–80	1901–10	1913
USA	0.55	1.02	1.22
Canada	0.55	1.68	3.84
Argentina	1.17	2.92	3.83

Source: Ferenczi and Willcox (1934).

The secular fall in mobility costs highlights the contrast between contemporary migration trends and the events at the turn of the century. We know that both trade and capital flows were instrumental in boosting integration among national economies in the late nineteenth century (Krugman, 1995; Sachs and Warner, 1995). Between 1870 and 1913, export flows increased at an average annual rate of more than 4 per cent, whereas the rate of growth of GDP stood ‘only’ at 2.6 per cent. Unsurprisingly, in 1913 exports accounted for a substantially larger share of GDP than in 1870 (Krugman, 1995). The pattern is not very different from what we observe today. However, the growth in trade was then accompanied by a surge in migration flows. Table 1.2a shows that between 1871 and 1880 and 1901 and 1910 the population share of emigration rose in many sending countries. The increase was particularly pronounced in the ‘new’ emigration countries, such as Italy, where the population share of emigrants soared from 0.1 per cent to 1.6 per cent, and in Spain. The pervasive role of migration is even more apparent if we focus on host countries. Between 1871 and 1880, average annual immigration was equal to 0.5 per cent of the domestic population in both the USA and Canada and to slightly more than 1 per cent in Argentina. 30 years later, these figures had doubled or even trebled. At its peak in 1913, immigration was equal to 3.8 per cent of Argentina’s and Canada’s population, and 1.2 per cent of the USA’s (table 1.2b).

Table 1.3. *European integration and migration, 1960 and 1970*

a Intra-European trade (per cent of imports originating in EC-6)

	1960	1970
Belgium	51	59
France	32	49
Germany	31	44
Italy	29	41
Netherlands	49	56

b Foreign workers (per cent of labour force)

	1960	1970
Belgium	5	7
France	6	8
Germany	2	6
Italy	—	—
Netherlands	1	3

Source: Molle (1990).

We find a similar picture when we focus on the more recent integration episode in Europe during the 1960s, during which the share of intra-EC trade for the EC-6 rose rapidly (table 1.3a). This growth in intra-EC trade was accompanied by rising migration (table 1.3b). Between 1956 and 1973 more than 11 million people migrated internationally, mostly from Southern to Northern Europe. The share of foreign workers in the labour force increased substantially from 2 per cent in 1960 to 6 per cent in 1970 in Germany, from 6 per cent to 8 per cent in France and from 5 per cent to 7 per cent in Belgium.

In sum, the contrast between table 1.1 on the one hand, and tables 1.2 and 1.3 on the other is clear: whereas increased trade integration at the turn of the century and in the 1960s was accompanied by increased migration, this was not so during the increased trade integration of the 1980s.

2 The controversies

It is widely recognised that the limited role of international labour mobility largely reflects the policy stance of governments in receiving countries. Left to market forces, thanks to cheaper transportation and improved

information on living conditions abroad, international migration would have most probably registered a massive increase. As mentioned above, the policy stance toward migration in receiving countries has undergone a radical change beginning in the mid-1970s. Whereas in the 1950s and 1960s, governments in Northern Europe sought to encourage immigration and were actively recruiting workers from Southern Europe and Northern Africa, nowadays in most receiving countries the policy imperative has become to halt any further immigration.

Policy choices are, of course, not made in a vacuum. The changing stance of policy-makers in receiving countries largely reflects the attitudes of voters there, in particular the belief that immigration may aggravate unemployment and wage conditions of unskilled workers in Europe and the USA. This is a hotly debated issue in the press on both sides of the Atlantic. However, evidence for the USA (Friedberg and Hunt, 1995) and for Europe (Zimmermann, 1995) concludes that immigration has played virtually no role in explaining the worsening labour market conditions of unskilled workers. Yet, voters appear to be undaunted by this evidence and hold an altogether different opinion on these matters. Other elements need to be brought in to understand voters' attitudes and policy choices.

This contrast between voters' attitudes and evidence of immigration is all the more pronounced once one recognises that a more complete evaluation of immigration in receiving countries should extend beyond the (short-run) impact on the labour market. In particular, immigration will have long-run effects on the demographic structure, and hence on the social security system in the host country. Under the 'pay-as-you-go' social security systems with contributions pegged to wage income prevailing in most receiving countries, immigration may indeed yield a further benefit by slowing population ageing, alleviating the dependency burden and allowing a reduction in social security contributions, with a favourable impact on net wages of natives (see Hillman and Weiss, chapter 4 in this volume). However, demographic projections indicate that immigration needs to increase to unprecedented levels to make a dent in the social security problems of receiving countries (Stalker, 1994).

The contrast between the predictions of standard economic theorising and the evidence on the one hand and citizen attitudes on the other is controversial and puzzling. At a theoretical level, utilitarianism cannot justify restrictive immigration quotas. Other elements must be taken into account. An obvious extension to the standard utility-maximisation framework is to recognise that voters' welfare includes other arguments than income (e.g. social capital or 'cultural cohesiveness' provided by a relatively homogeneous population, as recognised by Schiff, 1997, for example). Then immigration in receiving countries can be welfare-reducing owing to the disutility

from 'excessive' immigration, and likewise for sending countries. It is also possible that immigration affects the consumption of public goods. It is conceivable that natives perceive that immigrants have relatively intensive consumption patterns of public goods like education, and lower their quality of life.

How to reduce immigration in receiving countries is also controversial. In the post-1974 period, governments tended to rely mostly on border and population controls (Collinson, 1993). Yet, as shown by the sequence of immigration regularisation programmes, invariably implemented together with the promise to apply tight immigration limits, controls on population flows are largely ineffective. Porous borders, the reluctance to impose stifling domestic controls in a democratic society and the pull effect of labour demand from labour-intensive sectors in receiving countries have combined to undermine the effectiveness of direct controls and have resulted in a steady flow of immigration.

Alternative indirect approaches to limiting migration have been sought. These have revolved around the alternative ways policies can affect the trade links between sending and receiving countries. One approach has focused on encouraging capital flows and directing aid toward emigration countries (Lucas, 1995, ILO-UNCHR, 1992). However, (private) capital flows towards sending countries cannot be easily influenced by policy. Moreover, there is little evidence that even unrestricted capital mobility may result in falling migration. Lucas' (1990) computations suggest that substantial wage differentials across countries are compatible with free capital mobility. Similarly, aid flows are probably too small to affect the economies in most emigration countries (Albania may be an exception). Moreover, targeting aid toward sending countries, most of which are in the middle-income range, may conflict with the ultimate motivations of aid policy.

Under these circumstances, trade policy may represent a more effective strategy to deal with migratory pressures. It holds some clear advantages. First, and most obviously, trade policy is to a large extent under the control of policy-makers. It is largely recognised that both the USA and the EU have concluded regional integration agreements (RIAs) with their relatively poorer neighbours to stem migratory pressures. The NAFTA treaty in particular was explicitly targeted, at least by Mexican officials, at reducing migratory pressure. In former President Salinas' words: 'Mexico wants to export goods, not people.' Similarly, the EU's activism in concluding trade agreements both with Northern African and Eastern European countries is typically attributed to the desire of limiting migration. Second, but more controversial, are the effects of trade liberalisation: the increases in efficiency should decrease migratory pressures, both in sending and in receiving countries. In sending countries, higher incomes should lower

outward migratory pressures, especially if unskilled-labour-intensive industries are the main beneficiaries. In receiving countries, trade liberalisation should reduce the demand for unskilled labour, thereby reducing the demand-pull effect on migrants.

The effectiveness of trade liberalisation as a way to alleviate migration pressure is not, however, unquestioned. First, theory does not provide an unambiguous answer on the link between trade and migration. Second, as mentioned earlier, historical evidence seems to suggest that periods of greater trade integration were also characterised by large population flows. From these episodes, however, we cannot infer what would have happened to migration in the absence of the drive toward greater trade integration. In the nineteenth century, in particular, trade *and* mobility costs fell sharply. Similarly, in the 1960s, governments in host countries were actively promoting both trade *and* labour immigration. It is not surprising then to find that in both episodes trade and migration flows moved in the same direction and showed a concomitant increase. But this does not mean that trade liberalisation by itself provided a boost to migration. This example illustrates the difficulties of inferring the link between trade and migration from sheer observations of the data. Empirical evidence must be accompanied by theory to help identify the main factors at work in shaping the relationship between trade and factor mobility.

3 Insights from theory

In the Heckscher–Ohlin (HO) model, commodity trade arises because nations have different factor endowments. If factor mobility leads to a reduction in such differences it will undermine the basis for trade. In this set-up, therefore, trade and factor movements are substitutes. In the standard model with two factors, two goods and two diversified countries with perfect competition and identical technologies shared by both countries, if labour migrates from the labour-abundant country, the production of the exportable good will fall and the output of the importable sector will increase along traditional Rybczynski lines. On both counts, trade will decline. Similarly, in the labour-scarce country, the migration of labour will boost production of the labour-intensive importable good and lead to a decline in the output of the exportable good, and hence to a reduction in trade. It is therefore clear that trade liberalisation should reduce incentives to migrate.

Adding internationally mobile capital need not change the basic predictions of the HO model. Consider indeed a simple set-up with three factors – capital, skilled and unskilled labour. Suppose that capital is fully mobile, but skilled and unskilled labour migrations are restricted. Then, trade liberalisation in skill-abundant countries will reduce the incentive for unskilled-labour

immigration. Once again, therefore, commodity trade and labour mobility are substitutes.

Yet, this HO prediction is not shared by all trade models, even those where trade is based on differences in factor endowments. As the contributions by Venables and by Markusen and Zahniser (chapters 2 and 10 in this volume) show, the link between trade and migration can be complex. Rather than summarising these two contributions, consider the following approaches that yield results opposite to the simple HO model outlined above.

- (1) *Modified HO models* – With more than two factors, the impact of trade liberalisation on the incentive for factor mobility is generally ambiguous. Even with two factors, though, trade liberalisation may not lead to a convergence in factor prices, unless we rule out the possibility of factor-intensity reversal. Otherwise, with the countries having opposite factor-intensity ranking of the two goods, convergence in commodity prices brought by trade liberalisation will lead relative factor prices to move in the *same* direction in both countries. Lower barriers to goods trade could as a result cause factor prices to diverge and would therefore enhance the incentive for factors to move.
- (2) *Ricardian models* – Suppose that countries have the same endowment but different technologies. Suppose furthermore that the ‘rich’ country has a more productive technology in the labour-intensive sector. It will then export the labour-intensive good and, in the absence of factor mobility, will enjoy a higher wage. If barriers to factor mobility are eliminated, labour will migrate from the ‘poor’ to the ‘rich’ country. The increase in the labour–capital ratio will, again through standard Rybczynski effects, strengthen the specialisation of the rich country in the labour-intensive sector and lead to *more* trade, opposite to the HO prediction.
- (3) *Specific-factors models* – In this set-up, some factors (say, labour) are fully mobile across sectors, while other factors (say, land or capital) are tied to a given sector. By lowering the price of the importable good, trade liberalisation will depress the demand for labour (i.e. the mobile factor) in the import sector and lower both the nominal wage and the real wage in terms of the exportable good (whose price is unchanged). Real wages will, however, increase if expressed in terms of the importable good. Whether real wages as a whole increase or not will then depend on the weight of importable goods in the consumption basket. The effect of trade liberalisation on the incentive to migrate cannot therefore be determined *a priori*.
- (4) *Financial-constraint models* – Consider a simple case where labour migration entails a monetary cost. With imperfect capital markets,

some would-be migrants may be financially constrained and therefore unable to migrate to the desired destination. Suppose now that trade liberalisation in the labour-abundant sending country raises the wage there, along traditional HO lines. This will relax the financial constraint on would-be migrants and may, somewhat paradoxically, increase migration (Lopez and Schiff, 1995). In a related paper, Schiff (1997) shows that migration costs are often substantial and may therefore impose a severe constraint on would-be migrants. The strength of this argument is boosted by the observation that, for some (low-)income ranges, migration is an increasing function of the wage in the origin country (Banerjee and Kanbur, 1981; Faini and Venturini, 1993).

- (5) *'New' trade theory* – With increasing returns and monopolistic competition, the reduction in trade costs will not generally lead to factor price convergence. Consider, for instance, a standard model in the 'new' trade theory with one factor (say, labour), one constant-returns-to-scale sector producing a homogeneous good and one increasing-returns-to-scale sector producing a set of differentiated goods. In the pre-trade equilibrium, the wage in each country is pinned down by the assumption of constant returns to scale in the homogeneous good sector. Wages in the two countries are therefore equal. When trade opens, however, it is entirely possible that one country will specialise in the increasing-returns-to-scale sector. Wages may therefore diverge and labour will have an incentive to move.

Which type of model is relevant will, of course, depend on the characteristics of the economies that are integrating. For example, based on the contributions in this volume, one could argue that HO-based models might be the most relevant approximation to study the factor-movement incentives of NAFTA, and monopolistic competition models to study regional integration in Europe. It is hard to isolate the driving forces in each model because they are typically drawn along several dimensions. It is the contribution of Venables' lucid survey in chapter 2 to show how trade liberalisation affects the incentives for factor mobility in a unified framework for all the type of models described above (except Ricardian models and factor-endowment models that emphasise financial constraints to migration).

Venables' technique is to consider a two-country world in which countries differ only in their endowments of each of two factors with (exogenous) impediments to factor and goods trade. He then studies how, starting from an initial equilibrium with no incentives for further factor mobility, goods-trade liberalisation affects the incentives for factor mobility. Rather than generating new results, his contribution is to show the rich set of outcomes for substitutability/complementarity relations among

factors of production in the most widely used trade models: HO, specific-factors and monopolistic competition.

A somewhat different, but related, issue is whether trade liberalisation will foster convergence among regions or instead will increase the attractiveness of the relatively rich areas. With positive transport costs and (localised) increasing returns to scale, two opposite forces determine the location of economic activity. First, there is an incentive to concentrate production in only one region to exploit scale economies. However, the concentration of production in one region would push up wages there and would also imply higher transportation costs to meet the demand in the backward region. A reduction in trade costs could make it easier for firms to serve consumers located in the relatively poor region while producing in the rich region. Moreover, this would not be the end of the story, given that the greater attractiveness of the richer region would prompt workers to migrate there. Migration, in turn, will increase the market size of the more prosperous region and induce more firms to move there. This cumulative causation process was analysed by Krugman (1991) and is clearly relevant to assess the relationship between trade liberalisation and migration.

The issue of the agglomerative forces of integration is raised by Venables and is also picked up by Ludema and Wooton in chapter 3. They develop a more realistic set-up where potential migrants are only partially mobile (not, as in Krugman, fully mobile) because of natural barriers such as the preference for the home country or differences in language and culture. In this set-up, a reduction in trade costs resulting from integration is less likely to lead to a polarised outcome. Ludema and Wooton show the intriguing possibility that, for sufficiently mobile labour, progressive integration may initially lead to agglomeration, then again to diversification as trade costs are lowered further. This leads them to suggest a sequence of integration policies to avoid temporary dislocations of labour: a restriction on labour movements during the initial phases of trade liberalisation, with barriers to labour mobility removed once free trade in manufactures has been established.

If the link between trade and migration can be complex, it still remains that there is a fundamental asymmetry in the policies adopted in receiving countries: liberal policies in trade and capital exports, both of which disadvantage low human-capital residents and strict policies against immigration. This puzzling asymmetry is the point of departure of the political-economy perspective taken by Hillman and Weiss in chapter 4. In this setting, labour is not apersonal and cultural preferences (a public good) matter in policy choices. Can then jurisdictions with voluntariness of locational choice replicate the efficiency of the market in the provision of this public good? Unfortunately not, because typically immigration policies are

not based on discriminatory pricing and people who are willing to pay to belong to a jurisdiction are excluded.

Hillman and Weiss also review political-economy models of immigration policy that seek to explain why inefficient immigration policies are adopted. For example, in a median-voter framework, it can be shown that the median voter could simultaneously choose to ban immigration but that she may at the same time support tacitly selective illegal migration in selected industries because she would benefit from immigrants' presence. In their words: 'the "illegality" of illegal immigrants has the effect of transforming immigrants from mobile factors of production who would compete in domestic labour markets with the median voter, to sector-specific factors of production whose presence is beneficial.' They also show how a public-policy perspective can help explain differences in immigration policies across countries.

Trade liberalisation may have other non-conventional effects, once one includes the effects of migration on the allocation of benefits coming from a public good. Gatsios, Hatzipanayotou and Michael in chapter 5 consider a simple trade-theoretic model of a small economy where factor incomes are taxed at a fixed rate and the tax revenue is used to purchase a public-consumption good. They argue that the fall in trade barriers may influence the provision of public goods through both income and induced migration effects. First, any change in trade policy should affect income, leading therefore to a change in tax revenues and in the provision of public goods. Second, trade policy will also have an impact on factor prices and thereby on migration and aggregate income. Finally, the unit cost of the public good may also be affected, depending on the relative labour intensity of the importable good and on the impact of (relative) prices and labour endowment changes on the cost of producing the public good. There is also a further channel of interest (that the authors, however, do not consider) where migration itself may depend on the availability of public goods. This is clearly an interesting avenue for further research.

4 Quantifying the links between trade and migration

The ambiguities of theoretical predictions highlight the need for both modelling (which models conform to the data and how sensitive model predictions are to model choice or model closure), and for evidence (from current and historical episodes). Such a two-pronged approach is needed because we are far from being able to give direct evidence that the data support one model over another. And even if we were able to choose confidently one model over alternatives, not all relevant models could be tested. Furthermore, one would still be left with the possibility that the evidence is

circumstantial, and therefore not relevant for other episodes. The contributions in Part Two represent efforts to fit structural models that correspond closely to the theoretical models discussed in Part One whereas the contributions in Part Three rely on historical episodes (the nineteenth century, the recent wave of regional integration agreements – NAFTA and Eastern Europe) and use reduced-form methods that are often distant from the models they purport to represent. The two approaches are clearly complementary⁴

Kohli in chapter 6 studies the impact of immigration on the receiving country. Rather than relying on a reduced-form approach, Kohli takes the GNP function approach, where the value of national output is maximised for given output prices and factor endowments. His model has four inputs: imports, capital, non-resident labour and resident labour – where resident labour and capital are the two factors with endogenously determined prices. His approach is well rooted in trade theory, since it corresponds to the standard specification of the price-taking economy. Although he does not specify a full general equilibrium model, the supply side is complete, which allows him to specify precisely the sense in which inputs and output are substitutes or complements. And by specifying flexible functional forms, Kohli is able to let the data decide on the nature of the trade–migration link without imposing too much structure on his estimates (beyond the assumption that perfect competition prevails in factor and product markets).

Kohli's estimates are for Switzerland over the period 1950–86, where non-resident labour made up to a quarter of the labour supply. He finds that trade and labour mobility are complements both in the Allen–Uzawa sense (i.e. for given input prices) and in the Hicksian sense (i.e. for given quantities). He estimates that an increase in the supply of non-resident workers depresses only slightly the wages of resident workers (a 1 per cent increase in non-resident workers reduces the wage of resident workers by 0.1 per cent), confirming the findings of small effects of migration on wages estimated in other settings.

Chapters 7 and 8 use computable general equilibrium models to simulate respectively the effects of exogenous immigration in receiving countries and the effects of alternative policy packages to stem the supply of migrants in sending countries. Both are calibrated models though they differ in their treatment of the labour market and the household-maximisation decision.

Müller in chapter 7 studies the impact of immigration in an efficiency-wage model of a dual labour market in which immigrants work only in the secondary sector while natives are employed in both sectors. Hence there is discrimination against immigrants of the type 'equal pay for equal work, but unequal work'. His estimates are also for Switzerland. Besides proposing a labour market specification applicable in some other European

countries, Müller's approach allows him to illustrate the trade-off for natives of an increase in immigration. Whereas in the standard labour market specification, an increase in immigration has a very small impact on the welfare of natives, this is not so with a dual labour market when discrimination confines immigrants to the secondary labour market (this case corresponds to the 'guest-worker' system often used in Europe). The reasoning is simple. Initially, primary-sector wages are kept high to induce workers there not to shirk. Indeed, if caught shirking, primary-sector workers are fired and are forced to take employment in the (low-wage) secondary sector. Consider now the impact of immigration. By assumption, immigrants are confined to the secondary sector, leading to a fall of wages there. The decline in secondary-sector wages in turn increases the punishment for shirking in the primary sector. Firms can therefore pay lower wages in the primary sector and employment expands, with a first-order effect on welfare.

Müller's simulations show that, under this dual labour market specification, the welfare benefits for natives of a given immigration is four times larger than in the standard perfectly competitive labour market model. Of course, the improvement in natives' welfare comes at the cost of increased inequality among natives. He also shows that protection (defined to yield the same pattern of sectoral output levels as under immigration) would be preferred by natives in terms of social welfare (here defined by Atkinson's social welfare function) to immigration in the absence of labour market segmentation in spite of small efficiency losses. On the other hand, with a dual labour market, protection is detrimental for efficiency as secondary-sector jobs are concentrated in the protected industries. Indeed, protection would raise secondary-sector wages and crowd out primary-sector employment.

Müller then explores the degree of inequality-aversion necessary for a welfare-maximising government to choose a no-immigration policy under different closure rules for the labour market. He also examines the fear of 'over-foreignisation' coming from the perceived failure of the policy of rotation aiming at promoting return migration. In that case, immigrants become permanent residents and the government cannot be indifferent to their welfare. Then one should no longer discriminate against immigrants (as the Swiss government did in 1970 when it improved the legal status of immigrants), and Müller computes a welfare estimate of the welfare gain of removing the operation of the guest-worker system for the population of immigrants in Switzerland in 1985. Though this was not his focus, his results can help explain the change in attitude towards immigration.

Faini, Grether and de Melo in chapter 8 use a standard Ricardo–Viner (RV) model (similar in structure to the model used by Müller except for the labour market specification) to study the migration decision in sending

countries. In their model, the focus is on household decisions. They assume four household categories, each facing a labour supply and migration decision. (Because of the assumption of household heterogeneity, migration is only partial.) This model is then applied to two archetype economies corresponding to the case of a middle-income and of a low-income economy, respectively. The two archetypes differ because of the different weights of agricultural production, the skill composition of their labour force and their pattern of comparative advantage. The authors confront two strategies aimed at reducing migratory pressure: unilateral trade liberalisation (in the North and the South) versus direct measures (increased transfers to the South or increased migration costs) under different model closures (permanent versus non-permanent migration, presence or absence of financial constraints to migration for certain groups, etc.).

In this setting, trade liberalisation is bound to elicit a different migratory response in the two archetype economies and it will be sensitive to model closure. For example, in the middle-income economy, the reduction in import barriers is accompanied by a strong export response and, as a result, leads to an appreciation of the real exchange rate which in turn raises the domestic real wage and lowers the incentive to migrate. Conversely, in the low-income country trade liberalisation elicits a relatively weaker export response and brings therefore a depreciation of the real exchange rate. The incentive for migration increases. Overall, the simulation results suggest that if policy-makers want to alleviate migration pressure they should liberalise trade with middle-income rather than with low-income countries. Interestingly enough, this is exactly what the existing North–South regional integration agreements seem to be doing.

5 Historical and contemporary evidence

If structural econometric estimates and simulation studies provide the needed parameter estimates and a feel for orders of magnitude, they are still conditioned on model choice, and perhaps do not sufficiently confront the data, at least in the eyes of the sceptics. Carefully chosen historical episodes over a long time span and contemporary case studies of clearly defined policy episodes provide a useful complement to the modelling approach. In other words, the contributions in Part Three ‘let the data speak’.

Collins, O’ Rourke and Williamson in chapter 9 take a close look at the historical evidence on the link between trade and migration. They argue that the direction of this relationship may well depend on the historical period under analysis. Consider, for instance, the New World situation in the nineteenth century, where an ‘open frontier’ meant that new land could be easily brought under cultivation. In this context, a fall in trade costs will

increase the demand for the land-intensive goods in the New World and lead to a frontier extension whose exploitation would most probably require more capital. In this set-up, therefore, trade and capital mobility may be complements. As reasonable as this argument sounds, the authors fail to find much empirical support for it: when they regress total trade on the absolute values of capital and migration flows, they find that the former variable has a positive coefficient (which they interpret as denoting complementarity) mainly in the post-frontier period in 1919–36. Overall, the authors find little indication that capital and migration may have acted as substitutes for trade. The authors, however, are careful to point that they ‘are only exploring correlations’. Even a positive association between, say, trade and migration may mean only that both benefited from the fall in transatlantic transportation costs.

Markusen and Zahniser in chapter 10 look for reasons why the trade and investment liberalisation under NAFTA might not lead to the convergence in unskilled wages in the two countries that would be predicted by the HO model. Though it is too early to detect the effects of NAFTA, much of the liberalisation that had to be carried out by Mexico had already occurred during the 1984–94 period during which the wage gap between skilled and unskilled increased in all regions, particularly in the North where liberalisation had the largest impact. A widening gap also occurred in manufacturing.

Three different types of models (two of which are rooted in familiar factor-proportions theory) consistent with the stylised facts of the technology in manufacturing in the USA and Mexico are found to be consistent with a widening gap following trade and investment liberalisation. In one model, goods are ranked by skill intensity. Investment liberalisation leads to a shift of investment towards Mexico. However, those goods whose production is shifted from the USA to Mexico are the least skill-intensive from the US point of view, but the most skill-intensive from Mexico’s standpoint. The demand for skills therefore increases in both Mexico and the USA. Similar HO reasoning also works towards explaining why the reduction of protection in the production of labour-intensive maize in Mexico (but very capital-intensive in the USA) can lead to a rise in the wage–rental ratio in both countries, because from each country’s point of view the price of the capital-intensive good has risen. It is clear from these two examples that only few modifications would need to be brought to the standard HO model to produce different results.

Finally, Winter-Ebmer and Zimmermann in chapter 11 focus on East–West migration and trade. One major concern in some EU countries stems from the potential labour market effects of integration and enlargement to the East. Opening markets will encourage factor flows and trade,

and hence very probably cause adjustments in wages and employment opportunities. Given the ever-rising unemployment rates, and the relative decline of unskilled wages in Western Europe, the Eastern enlargement is seen as a threat to native labour markets. Because of geography and historical ties, Austria and Germany have already received disproportionately more immigrants and stronger increases of trade flows than other countries. It has to be expected that this trend will continue in any process of economic integration in the East. Hence, the Austro-German situation is an interesting case study.

The authors first provide an extensive survey of the previous empirical literature on the labour market in Austria and Germany. This is important, since a large part of the European literature deals with the situation in those two countries. Here the findings at large are that neither immigration nor trade had a relevant harming effect on employment and wages. They then provide new econometric evidence on the issue. Using industry-panel data for both countries, they employ a reduced-form approach to examine the effects of trade and immigration (from the East and elsewhere) on total and native employment, and wages. The Austrian findings suggest that immigration has a negative impact on native employment and wages, and no effect on total employment. Imports affect employment negatively and exports have a positive effect on wages. The German results indicate that immigration and trade is not harming employment and wages. Natives seem to be complements to migrants, at least to those from East Europe. Trade does not affect wages at all, and hardly affects employment. These results are in line with other recent studies for both Austria and Germany.

6 Conclusions and policy implications

Theory tells us that factor movements and commodity trade are jointly determined by technology and tastes, pointing out where to look for the factors that determine the link between trade and factor mobility. We also know that new trade models often predict that trade and migration are complements, and economic-geography models point out that integration may lead to an agglomeration of economic activity. Yet, as Sapir notices in his discussion of Venables' chapter 2, the applicability of increasing returns models to North–South trade may be limited. This does not imply, however, as shown by Markusen and Zahniser, that we should rely exclusively on standard HO theory. Moreover, financial and institutional constraints may reverse the direction of the trade–migration link. In sum, both the theoretical and empirical contributions in this volume suggest that trade liberalisation will not always alleviate the incentives for factor mobility.

Overall, the chapters in this volume suggest several observations. First, initial conditions matter. Trade liberalisation of high-income countries with middle-income countries is more likely to foster convergence and discourage migration, though liberalisation in investment flows could alter this outcome. By the same token, integration of goods markets between economies with very different initial conditions could lead to opposite outcomes. This is because the fall in trade costs would lead to more polarisation and more migration, in part because of the relaxation of financial constraints on migration costs. There are therefore good reasons to be relatively optimistic about the migration outlook from Eastern Europe to Western Europe following the Europe Agreements. These are middle-income countries, demographic conditions are stable and, provided that the transition to a market economy is successful, massive migrations should not constitute a significant threat.

Second, short-run effects may be important, even when integration is between countries that are not at the extremes, as in the case of Mexico and the USA. For instance, it would appear that NAFTA encouraged migration, at least in agriculture in the short run. Disruption of Mexico's maize production to the benefit of its counterpart in the USA has put downward pressure on unskilled wages on both sides of the border as this highly protected sector in Mexico is a very labour-intensive activity in Mexico and a very capital-intensive one in the USA. This may be a special case, but it serves to point out that even if technology is available to all off the shelf, the same technologies are not always profitable everywhere at the same time. In the longer run, though, improved conditions in the Mexican economy would still stem migratory pressures.

The policy message is therefore clear. Trade liberalisation and migration controls are *not* alternative policy strategies as suggested by a straightforward application of trade theory. They work with differing effectiveness over different time horizons. Migration controls are likely to be somewhat more effective in the short run and, in any case, remain the main tool to avoid massive, and largely undesired, immigration in receiving countries. But, if their objective is to stem migratory pressures, policy-makers' reliance on migration controls in the short run should not dispense them from searching for more forward-looking strategies to alleviate migration pressure in the medium run. Despite theoretical ambiguities and policy disputes, the evidence continues to point towards benefits from trade liberalisation.

NOTES

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- 2 Clearly, there are strong analogies between these concerns about the impact of immigration and the controversy surrounding the effects of globalisation and trade integration on the labour market outcome in OECD countries.
- 3 A poll conducted on the behalf of the European Commission shows that a significant majority of those interviewed believe that 'immigrants are too many'. This is particularly true in the largest four European countries, with 54.7 per cent of Frenchmen, 56.7 per cent of Germans, 51.3 per cent of Britons and – somewhat surprisingly, given the very low population share of foreigners – 64 per cent of Italians believing the number of migrants to be excessive.
- 4 Econometric evidence from reduced-form models produces correlations while simulation results from structural models usually correspond closely to the general equilibrium models of trade theory, but they can capture only the effects incorporated in the model, and when calibrated to real-world data, the fit is only for an arbitrarily chosen base period.

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