

# Temporary migration in theories of international mobility of labour

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## Abstract

There is an arising consensus on the empirical importance of temporary labour migration. In acknowledgement of this fact the present overview summarizes literature that deals with drivers and effects of temporary labour movements. The overview sets together relevant elements of migration initiation and perpetuation, return migration and international trade theories. It also complies conclusions from a growing body of empirical literature on re-emigration to the country of origin, remittances and on the behaviour of temporary versus permanent immigrants. Distinguishing temporary from permanent labour migration should help to explain the dynamics of the actual international labour movements and to understand their impact on economies.

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## 1. Introduction

Hatton and Williamson (2006) in chapter 5 date the transition from a predominantly permanent to an increasingly temporary labour migration back to the beginning of the 20th century. They document that already before 1914 one third of immigrants to the United States eventually returned home. They also argue that the primary cause for a growing share of temporary migrants was a substantial reduction in transportation costs. Once workers could afford multiple trips between source and host countries, emigration ceased to be a life-long experience it often had to be before. Since the beginning of XX century there has been a further decline in transport and communication costs. It has become increasingly easier for emigrants to stay in contact with their family, friends and to get updated on situation on the home labour market. This has not only slashed non-pecuniary costs of migration but also made return easier from a social and economic point of view.

The post II World War evidence shows ongoing expansion of temporary labour migration. Temporary migration has made up for a significant share of all cross-border labour movements especially in Europe (Baines 1994; Dustmann, Bentolila, Faini 1996). Borjas and Bratsberg (1996) estimate that 17.5% of immigrants who arrived in the United States between January 1975 and March 1980 left the country before the end of that period. Aydemir and Robinson (2008) calculate that around 35% of immigrants to Canada left within 20 years from the time of their arrival. Dumont and Spielvogel (2008) compare the average re-emigration rates 5 years after an arrival in Ireland, Belgium, the U.K., Norway, the Netherlands and the U.S. in 90s. The rates vary from 60.4% in Ireland and 28.2% in the Netherlands to 19.1% in the U.S. Bijwaard (2007) provides an estimate of the re-emigration rate in the initial 7 years from an arrival to the Netherlands at 40%. Klinthall (1999) reports that around one third of immigrants to Sweden left the country within 5 years and 50% within 10 years from their arrival (in the period between 1968 and 1993). Dustmann and Weiss (2007) document that only 60% of male and 68% of female immigrants stay in Britain for more than 5 years. They also show that intra-European movers have one of the highest propensities to re-emigrate.

At least initially most of immigrants have the intention to leave their host country at some point of time. Dustmann (1993) indicates that in 1983 over 55% of immigrants in Germany planned to leave it within 10 years. Eade, Drinkwater, Garapich (2006) document that only 22% (out of 50) Poles surveyed in the U.K. in 2006 intended to stay there permanently. 36% treated emigration as a one-off or possibly repetitive but still temporary episode, and further 42% of Poles kept both options of settlement and return open.

The empirical relevance of temporary labour migration is still not fully reflected in the economic literature. Facing such a state of affairs, this article gathers existing theories and empirical studies which describe or help to understand temporary migration. Even though the literature rarely separates temporary from permanent movements of workers this distinction is at the heart of the analysis. I also collect arguments that discriminating between temporary and settlement migration matters for a correct assessment of its impact on host and source economies. This stock-taking exercise is hoped to pinpoint weak spots in the current state of knowledge and provide some directions for further research.

Temporary migration is broadly understood as a movement across national borders involving a change of the actual place of residence<sup>1</sup> and with an intention to leave a destination country at

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<sup>1</sup> Change of residence sets temporary migrants aside from international commuters. For an empirical comparison of both types of mobility of Mexican workers see e.g. Kossoudji and Ranney (1984).

some point in the future. The actual residence means the region where a person normally spends her leisure and where she is able to supply work on an ongoing basis. This definition of residence serves the purpose of integrating all cross-border movements of workers except very short stays abroad (days, weeks). It is conceptually very similar to a more commonly used statistical definition of usual residence, but less restrictive as regards the duration of a stay in the host country. According to the United Nations recommendation, a person can be counted as a usual resident only after a 12 months sojourn at the given place.

The definition of a temporary migrant underlines her intentions to leave the host country rather than the duration of her completed stay abroad. Apparently, a high fraction of immigrants who intend to stay or re-emigrate indeed do so, as shown e.g. by Dustmann (1996) for immigrants to the Western Germany and by Klinthall (1999) for immigrants to Sweden. Still, as shares of unintended leavers and unintended settlers are considerable, the difference between plans and actions must be acknowledged. The *ex ante* rather than *ex post* interpretation of the temporariness of migration follows closely the intuition of Dustmann (1996) who points out that it is future plans (in contrast to unknown future actions) that influence behaviour of immigrants during their stay in a foreign country.

The lion's share of temporary migrants are return migrants. According to Nekby (2006) 70% of re-emigrants from Sweden between 1990–2000 left for their countries of origin. Khoo, McDonald and Hugo (2005) find that only a negligible fraction of the temporary settlement visa's holders in Australia intend to re-emigrate elsewhere than to their home country. Therefore, many authors dealing with the theory (e.g. Hill 1987; Djajic, Milbourn 1988) or data (e.g. Dustmann 1993) on temporary migration put an equality sign between re-emigration and return events. In the overview I follow a similar strategy.

Return migration can be also seen as the most emblematic type of temporary migration, largely encapsulating other types of non-settlement labour movements. Circulatory migration, which is marked as an alternative form of temporary migration by Dustmann and Weiss (2007), is characterized by frequent movements of a person between the host and the source country. Massey (1987), Massey and Espinoza (1997) or Constant and Zimmermann (2003) empirically compare one-off, return and repeated emigrants from Mexico to the U.S. and immigrants to Germany, respectively. Factors conditioning return and circular migration are similar: workers are pulled abroad by economic factors but their home attachment and links with kin and friends rule out their settlement in a foreign country. Here, circulatory migration is perceived as repeated return migration.

Transient or onward migration takes place when a person stays in a foreign country before reaching other destinations. From the perspective of a recipient country, due to her willingness to eventually leave the place, a transient immigrant come close to a return migrant. This justifies treating literature on transient and return immigrants as largely substitutable. Empirical studies that make a distinction between onward and return immigrants and compare their behaviour include e.g. DaVanzo (1976) and Neckby (2006). From a standpoint of the source region a transient emigrant leaves the country permanently and falls out of the focus of this analysis.

The fourth type of temporary labour migration mentioned by Dustmann and Weiss (2007) is contract migration. While temporary migrants are usually thought to freely choose the date of their re-emigration, contract migrants are not permitted to settle permanently and the time

of their return is determined by regulations. Temporary visa regimes, bilateral seasonal and quest-workers agreements between countries modify the set of feasible options for contract immigrants and help to understand the context and limitations of their actions. Apart from that, contract and return migration are inherently similar phenomena. Whether some regimes are in place or whether movements of workers across borders are completely unrestricted, the decision to emigrate is more often than not voluntary. Examples of contract migration waves are described by Khoo et al. (2003) who look at contract immigration of high-skilled workers to Australia (Khoo et al. 2003) or Athukorala (1990) who focuses on fixed term contract emigration of lower-skilled Sri Lankian workers to oil producing Middle East countries.

No demarcation line between ‘purely’ economic versus non-economic migration, similar to the one drawn by legal requirements regulating contract migration, is set in the article. Neither legal nor illegal migration is *a priori* the center of attention. Interactions between economic or political institutions and economic forces are instead used to identify factual choices faced by migrants. For instance, the refugee status is every now and then used as an approximate criterion for sorting permanent from non-permanent migrants. Political persecutions and civil wars that push refugees out of their country of origin later on minimize their probability of return. Next to it, refugees are ordinarily constrained in their ability to travel or else ways maintain contact with their families and friends at home. Non-refugee, labour or student migration, is expected to be characterized by a relatively higher fraction of potential returnees.

The presentation and discussion of theoretical and empirical concepts that can offer insight into the dynamics of temporary migration had to be narrowed. While selecting the literature the emphasis is put in the first place on the medium run economic aspects of international labour movements. In economics itself migration is studied in contexts ranging from the growth theory (Drinkwater et al. (2003) provide an exhaustive survey of this literature including the role of migration in endogenous growth models), through the theory of public choice (Gerdes, Wadensjo (2008) are one of the recent examples) to demographics and public finances (see e.g. Tosun 2009). As Massey et al. (1994, pp. 700–701) put it more than a decade ago: ‘Social scientists do not approach the study of immigration from a shared paradigm, but from a variety of competing theoretical viewpoints fragmented across disciplines, regions, and ideologies. As a result, research on the subject tends to be narrow, inefficient, and characterized by duplication, miscommunication, reinvention, and bickering about fundamentals’. Massey et al. (1993, pp. 432) conclude: ‘At present, there is no single, coherent theory of international migration, only a fragmented set of theories that have developed largely in isolation from one another, sometimes but not always segmented by disciplinary boundaries’.

To establish a basic theoretical background, in the first section I follow an overview of international labour migration theories by Massey et al. (1993; 1994)<sup>2</sup> pointing at those elements which can be related to non-settlement migration. By a similar token, in the second section, I discuss international trade models, which put migration of workers in a broader context of the mobility of production factors. The theories of migration and cross-border trade are often silent about return intentions of movers. Hence, when evaluating existing migration studies an additional

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<sup>2</sup> A literature overview by Massey et al. (1993; 1994) identifies major streams of migration theory. A broader, but also less in depth than in Massey et al. (1993), overview of migration theories is provided by e.g. Bijak, Kupiszewski, Kicing (2004), Bijak (2006), Hagen-Zanker (2008).

judgement on traits shared by temporary migrants is applied. It is postulated that temporary emigrants are likely to maintain closer ties to the source country, having contact with family and friends, exhibiting similar consumption preferences as native stayers and being more interested in the home labour market than those who attempt to stay abroad permanently.

The third section looks at drivers and impact of remittances. As remittances are largely absent in the international trade theory models, this section is thought to add to a discussion of the impact of labour movements on economies. The fourth section compiles motives of return migration. The arguments summarized in these two sections are supplemented with a discussion of the related empirical evidence. Regrettably, criteria applied to identify migrants in the empirical studies do not always correspond with the preferred definition of a temporary migrant. Immigrants are casually identified on a basis of their birth place or nationality, irrespective of their time of residence in the country. Otherwise, in a great part of the empirical literature on return, migration returnees are identified only *ex post*. Hence, the relevant samples of migrants include unintended leavers and exclude unintended stayers. The presented overview inherits this definitional incoherency.

In the fifth section, I turn to concepts and empirical outcomes on behavioural differences between temporary and permanent migration. The final section concludes.

## 2. Theories of international labour migration

Theories of international migration of labour can be subdivided into theories taking a micro or macro (or meso) perspective. Microeconomic theories look at labour migration as an outcome of individual decisions of persons or households. Theories taking a more aggregated view, and within them macroeconomic theories, relate labour migration to forces which work on a national or the world economy level. The latter theories do not rule out that workers' actions are driven by some microeconomic incentives but put more emphasis on interdependencies between individual migration decisions. Table 1 classifies the theories discussed in the section according to the level of focus. After Massey et al. (1993) the table separates between theories of initiation and perpetuation of labour migration.

### 2.1. Microeconomic theories

Table 2 summarizes microeconomic theories of international labour migration and compares (sometimes tacit) assumptions about utility functions of economic subjects and the structure of markets.

The neoclassical theory of labour migration originates in the works of Sjaastad (1962) and Todaro (1969). In the basic setting the theory postulates that a worker emigrates when the expected stream of income to be earned abroad net of the cost of migration is higher than her discounted expected earnings at home. Workers are heterogeneous and returns to their skills can vary between labour markets. The expected gains to emigration will therefore depend on education, job experience, other core or soft skills of a worker, and on their valuation in destination and the source countries.

Differences in the structure of regional labour demands have a bearing not only on the magnitude but also on the composition of migration waves. Borjas (1987) hints that higher dispersion of wages in a destination country (as compared to the source regions) favours immigration of highly skilled and well motivated workers. When the wage dispersion is trimmed either by institutions or fiscal policy measures the country will be entered for the most part by lower skilled workers.<sup>3</sup> A relevance of the self-selection of migrants is recognized in a rich body of empirical studies starting from the canonical works of Borjas (1985) and Chiswick (1986). The latter authors point out that different skill composition of subsequent immigration waves to the U.S. undermines the reliability of the wage assimilation profiles estimated on the basis of the (Population Census) cross-section data.

Another implication of workers' heterogeneity and the idiosyncrasy of local labour demands is a possibility that the difference between the average wage levels between countries persists even though markets clear. By analogy, even if the average wage level in two economies is equal, migration flows between them can still take place, as the case may be, in both directions.

The neoclassical theory can accommodate the existence of a non-zero equilibrium unemployment rate. Then, it relates the expected gains to emigration not only to wages but also to the relative probability of finding a job in different locations. It can also include non-economic, social costs of migration by considering workers' utility related to non-monetary preferences (e.g. for location) rather than their income. Incorporation of non-pecuniary factors in the neoclassical framework helps the theory explain why migration flows are so moderate in the world with immense income disparities.

The neoclassical theory encloses permanent and temporary migration. Temporary migration is an outcome of a similar optimizing strategy as settlement migration when conditions (the relative returns to skills, education opportunities at home and abroad) favour the solution of emigration and later return. A worker will move abroad only temporarily when she e.g. attempts to acquire skills (*via* formal education or on the job training) that yield high returns back at home.

The New Economics of Labour Migration (NELM), set forth by Stark and Bloom (1985), removes some assumptions present in the neoclassical setting. It underlines the importance of a joint decision making within a family and treats a household, not an individual, as a basic unit of the analysis. Besides, it acknowledges the incompleteness of insurance and capital markets. For instance, emigration of a worker can serve a purpose of a differentiation of sources of the family's income, if her household cannot insure against the income volatility otherwise. Another plausible trigger of migration, according to the NELM, is relative deprivation. If a utility function of individuals (or households) incorporates their relative income as compared to some reference group, an income inequality in the country of origin encourages emigration of the worst-off workers. Foreign earnings allow them to boost their prestige at home.

The NELM does not deny that the expected income gains play a significant role in migration decisions. It only argues that other factors, like market failures, altruistic or cultural linkages between family members or relative deprivation, may be of similar importance.

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<sup>3</sup> It can be noted that in reality self-selection patterns can be very diverse. Dustmann and Glitz (2011) show that the same destination country can attract immigrants with high education from some regions (e.g. French migration to Germany) and low education from other (e.g. Turkish migration to Germany). A single source country can send emigrants with a high educational background to particular destinations (e.g. immigrant Poles in the U.K.) and with low to others (e.g. immigrant Poles in the Czech Republic).

Motives raised by the NELM can trigger different types of migration. Emigration which is driven by a limited access to capital markets terminates as soon as the worker accumulates enough savings to set off a business at home. An intention to return is less discernible in the co-insurance and the relative deprivation motives. An effort put by an emigrant into preserving contact with stayers or acquiring higher social status in the source country can, but not necessarily has to, signal return plans.

## 2.2. Theories working on a higher aggregation level

An overview of theories assessing migration at the level of economies or nations is offered in Table 3. The neoclassical macro theory of labour migration descends from studies on the sources of economic development. In this context, Harris and Todaro (1970) explicate the theory of rural-urban migration as a process leading to the equilibration of regional labour markets. The real wages are low in labour abundant regions (rural areas) and high in labour scarce markets (towns). The wage gap sets incentives for workers to move from labour-rich to labour-poor regions. The same mechanism can be applied to explain the dynamics of international labour migration, if only the assumption of homogeneity of the native labour force is extended to foreign workers. International migration balances labour demand and supply in a source and a host country so that, in an equilibrium, the difference in the wage level between the countries reflects only workers' re-location costs. The neoclassical theory of labour migration concentrates on changes in labour supplies, and the duration of a worker's sojourn in a foreign country is of no direct relevance.

In the neoclassical theory migrants respond to real wages differentials. These in turn signal the relative shortage or excess of labour supply in a region. In the Keynesian setting, wages and price stickiness loosen the interconnection between real wages and the optimal employment level. Markets do not always clear but migration can still restore an equilibrium *via* changes in unemployment rate (Hart 1975, and after him Jenissen 2003). Here, migration is driven by the nominal and less so the real wage gap between regions, and money serves as a medium of saving, not only of exchange. The Keynesian perspective is interesting because it refers to incentives which are intuitively more compatible with temporary than with permanent migration. When time spent abroad is only limited and the worker saves a significant share of her foreign income, it is the purchasing power of the accumulated savings in the source country that matters. The immigrant's wealth is proportionally less dependant on the price level in the host country. In this manner, temporary migration can indeed be activated by the nominal wage differences also when, as in the Keynesian theory, they occasionally decouple from the evolution of real wages.

The dual labour market theory, pioneered by Piore (1979), focuses on the whole economy as a basic unit of the analysis. According to the theory, the primary reason for migration lies in the segmentation of labour markets in developed economies. The primary sector offers more stable employment, better wages and higher social prestige than the secondary sector. Even though these jobs can require higher education or long apprenticeship periods nationals search for them in the first place.

Employers' attempts to attract native workers to the secondary sector are largely inefficient. Wage upgrades have a very limited impact because native workers value the social status of

a job. Moreover, an increase in the secondary sector wages can disrupt the hierarchy of social prominence. In the presence of ‘institutional rigidities’ wage hikes in the secondary sector set off a process of upward wage adjustments in the rest of the economy and the initial relative wages are eventually restored.

To address bottlenecks in the secondary sector profit-maximizing firms turn to foreign workers. Immigration is a purely demand driven phenomenon tied to a limited supply of native workers in the secondary sector. Immigrants accept positions with lower prestige and security because they are still better paid than jobs they can get in their source country. The relatively high earnings allow them to elevate their status as compared to their fellow citizens.

In the segmented labour market theory, similarly as in the NELM, the immigrant is assumed to compare herself to a reference group consisting of her natives, who can still live in the source country. These types of linkages are more likely to persist when a sojourn in a foreign country is planned to be only temporary. In this roundabout way the segmented labour market theory pins down some elements related to non-settlement migration.

The world system theory (Wallerstein 1974) perceives migration as a natural outcome of globalization. International integration of trade and production processes, technological progress that facilitates a reduction of communication and transportation costs, and the development of the global culture – all disturb traditional social norms, technologies, and create labour oversupply in developing countries. Simultaneously, low transportation costs, standardization of culture and access to similar information all around the globe ease entries of workers from peripheral areas into labour markets of developed countries. The abundance of labour in catching-up regions and diminishing migration costs jointly aid immigration flows to advanced economies. Just as the neoclassical theory the world system approach is silent about the duration of migration episodes.

### **2.3. Perpetuation of international labour migration**

Theories of perpetuation of labour migration are put together in Table 4. In a very broad sense, these theories ponder upon interactions between earlier and potential migrants which make it easier or more desirable for the latter to emigrate. By their very nature, these theories are complementary to the theories of initialization of labour migration.

New migrants leaving the source country or entering foreign labour markets can draw upon networks and institutions proliferated by the previous migration waves (Taylor 1986). Help offered to new migrants by networks and institutions may be organizational (e.g. intermediation in the visa application process), financial (e.g. financing travel or provision of accommodation) or informational (e.g. sharing knowledge on job opportunities on foreign labour markets).

The theory of cumulative causation concentrates on the evolution of the socio-economic environment in source economies (Massey 1990). An inflow of remittances can affect the wealth distribution in local communities. Therefore, income transfers reaching emigrants’ households will encourage workers from other families to move abroad in order to reduce their just leveraged relative deprivation. Besides, return migrants can introduce labour-saving innovations in the agriculture or services. The technology changes contribute to a reduction of labour demand on a local market and push workers abroad. Finally, emigration can start to be perceived as an



appropriate experience. The positive social value attached to mobility will again trigger new emigration waves.

From the microeconomic perspective, networks, institutions or social and economic changes promoted by the earlier migration waves reduce pecuniary, non-pecuniary and/or the alternative costs of individual migration. From the macroeconomic point of view the migration's perpetuation channels introduce a positive state dependence in migratory flows.

The theory of cumulative causation hints directly at a prominent role of return migrants and links between emigrants and stayers (signalled e.g. by the presence of remittances) in introducing persistency of migration flows. Both temporary and permanent migrants can in turn create networks and foster establishment of institutions. Seasonal workers recruitment agencies active on foreign labour markets can serve as an example of institutions set up to streamline existing temporary migration movements. By contrast, government agencies that support cultural integration of foreign workers represent institutions usually installed in the aftermath of a permanent immigration flow. Institutions founded in response to temporary or settlement migration waves can be speculated to have an edge in facilitating migration of a similar type also in the future. Specialization patterns are less probable to be embedded in networks or mechanisms of cumulative causation. In any event, the deeper the overall reduction in costs and risk of migration the better conditions are created for temporary labour force movements.

### **3. Migration in the international trade models**

Needles to say, international trade models have been designed to explain the dynamics and benefits from the international trade and less so to address issues related to labour migration. However, due to their multi country structure and a material role they ascribe to labour they are often able to inform about macroeconomic effects of cross-border mobility of workers. A list of international trade theories with a brief summary of their key assumptions and mechanisms governing labour migration is placed in Table 5.

The classical international trade theory builds on the work by Ricardo (1821). He points that a country will export goods it manufactures most efficiently and import goods it produces less competently as compared with its trading partners. When efficiency is expressed in terms of production costs, a country will have the comparative advantage in manufacturing goods if it is able to produce them at lower costs than any other products. The comparative advantage depends on exogenous technologies which outline factor inputs required to create each good.

Ricardo assumes that all factors of production, including labour, are internationally immobile. In the simplest framework, any exogenous relocation of labour leaves the world prices of goods and the trade exchange between regions intact because the unit cost of production is assumed to be constant. Still, the classical trade theory sets a set of assumptions that carry over to the neoclassical models with free flows of production factors. These assumptions entail the instantaneous clearing of factor and goods markets and low (zero) transportation costs.

The two models extensively used to assess the consequences of labour migration are the 'basic' model of Ramaswami (1968) and the Heckscher-Ohlin model. In contrast to the Ricardian model, which is silent about the sources of the comparative advantage, the neoclassical models link the

latter to production factors endowments. Other things equal, highly populated economies with a low capital stock will specialize in labour intensive goods and relatively labour-scarce regions will go in for capital intensive goods.<sup>4</sup> In the models labour can move between regions and workers leave for countries with the highest returns to their services. The labour movements are reflected in the reverse signed shifts in labour supplies in the source and the host country. Firms accommodate these changes in labour supply by reorganization of production so as to make the best possible use of the available resources.

The two models differ in their assumptions about a number of tradable goods manufactured in every economy. In the Ramaswami model there is only one tradable good, whereas in the Heckscher-Ohlin model there is a variety of export goods. The assumption about a number of produced goods determines the particularities of adjustment to labour migration. In the 'basic' model, a higher supply of labour in the host country reduces a level of the real wages. In the Heckscher-Ohlin model an immigration wave in the first place urges a shift in the production structure in the direction of labour intensive goods (Rybczynski theorem). Thereupon, the local and the global supply of labour intensive goods rise. As long as the expansion of the world supply is only moderate, real wages in the recipient country remain sane. Only when the world supply of labour intensive goods swells sufficiently strongly to depress their global prices, wages go down (Stolper-Samuelson theorem).

The Heckscher-Ohlin model provides an elegant reply to the observed resistance of wages to immigration shocks. For this reason it is believed to have an empirical advantage over the Ramaswami model (Gaston, Nelson 2000). However, the restraint response of wages to immigration in the Heckscher-Ohlin model is a long run phenomenon only. The result hinges on the factor price equalization theorem which can be forced by competition after a reasonable time has passed after a shock.

In the 'basic' and in the Heckscher-Ohlin models immigrants behave analogously to natives of the destination country. When the structure of the aggregate demand is heterogeneous across countries, immigrants are tacitly expected to take over consumption and investment patterns from citizens of the recipient country. Thus, in these models workers can be thought to move permanently.

The endogenous labour migration raises the world product and the surplus is shared between sending and host regions. Similar welfare gains can be achieved by liberalization of trade or capital flows. The substitutability between free movements of labour, capital and goods (in short, the substitutability) is an essential implication of the neoclassical international trade models.<sup>5</sup> Among other interpretations, it says that in the otherwise integrated world there should be no labour migration. The substitutability outcome is, however, not robust to modifications of the models' assumptions. In the Heckscher-Ohlin model it breaks down in the presence of fixed production factors (see Kuhn, Wooton (1987) for relation between migration and capital, and Venables (1997)

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<sup>4</sup> Leontief (1953) tests whether export patterns of the U.S. in the late 40s correspond with the relative endowments of the economy in labour and capital. The relatively capital abundant U.S. appear to have exported primary labour intensive goods. This result hints at a failure of the simple two-factor neoclassical models to fit the data. Leontief suggests that accounting for the high U.S. human capital endowment could potentially explain the observed trade structure. Frameworks of the neoclassical international trade models can and have been extended for skilled and unskilled labour by e.g. López and Schiff (1998) and used to study the macroeconomic impact of different types of workers. To keep things simple, here I stick to the original formulation of the models with homogenous labour and physical capital.

<sup>5</sup> For the Heckscher-Ohlin model the substitutability result has been derived by Mundell (1957).

for relation between migration and trade). Neither does it hold when labour market institutions in receiving and sending countries are diverse (Saavadra-Rivano, Wooton 1983) or when workers are financially constrained (Lopez, Shiff 1998). In the latter case, trade or capital liberalization contributes to an increase in the average income of workers and loosens their financial constraints. In consequence, workers from poorer regions can afford a trip abroad or invest in own education, which boosts their chances of emigration in the longer perspective. In practical terms, the substitutability outcome can be questioned anytime when there are persistent differences in technology, business environment or infrastructure between countries or when capital markets in some regions are incomplete.

Olson (1996) provides empirical evidence against the substitutability of labour, goods and capital markets integration when labour market institutions in sending and recipient regions vary. A significant degree of complementarity, in contrast to substitutability, between trade and labour flows is supported by an even richer set of empirical studies. Head and Ries (1998), Dunlevy and Hutchinson (1999) show that immigration leads the intensity of trade exchange between sending and host regions, and import volumes in the latter in particular. Gould (1994) indicates that trade in consumer goods increases the most in the aftermath of a migration wave between regions.<sup>6</sup> Shiff (1996) discusses empirical literature on financial constraints and emigration of workers.

Card, Dustmann, Preston (2009) criticise the substitutability result from a different angle. They focus on compositional amenities, namely subjective values ascribed by natives to shared religious beliefs, language, and customs. Once the compositional amenities are in place labour migration can be less welfare improving than trade or capital markets integration. Natives who fear the impact of immigration on social integrity can influence immigration policy but also affect the efficiency with which immigrant labour is employed e.g. pursuing discriminatory practices at a workplace. Thus, when the alternative dimensions of integration are more broadly accepted, the realized gains from free trade and capital flows may be significantly higher than from easing labour market entry of foreign workers.

The New Economic Geography (Krugman 1979) again challenges the substitutability paradigm. It points out that the increasing returns to scale can lead to a situation when wages and returns to capital are high in one region and low in other places. The economics of agglomerations provides a rationale why immigration can encourage inflows of capital and why foreign investments can reinforce immigration to the region. Likewise, a reduction of the average production costs resulting from the clustering of capital and labour can facilitate (not dampen) trade exchange with other regions.<sup>7</sup>

Rauch (1996) describes international trade exchange as taking place on markets with imperfect information where buyers and sellers trade in heterogeneous products. In a setting with informational frictions, migrants possess a better knowledge of goods traded on the source and the host markets than non-migrants. In consequence, movements of workers can facilitate trade exchange between source and host economies (in both directions). Consumers are driven by the ideal product or love-for-variety motives so labour migration, by broadening an array of products

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<sup>6</sup> Other works documenting the existence of a positive relation between immigration and foreign trade include Helliwell (1999), Rauch and Trindade (2002), Blanes (2005), White (2007) and Foad (2009).

<sup>7</sup> The New Economic Geography models were successfully used to study the impact of migration movements on economies by e.g. Brezis and Krugman (1993), who additionally account for effects of expectations and Epifani and Gancia (2005), who integrate labour market frictions.

available on each of the good markets, positively affects their welfare. The theory does not attempt to identify reasons for labour migration but mentions some of its plausible effects. Familiarity with goods traded in the home country is likely to go hand in hand with maintaining also other sorts of ties to the country of origin and be prevalent among temporary immigrants.

## 4. Remittances

Remittances are understood as all income transfers from immigrants to their home country, be they transfers to family members or repatriated savings. Largely separate strands of literature on remittances have evolved, with some distinct conceptual or identification frameworks. These strands are discussed in the context of temporary migration because the presence of remittances conventionally reflects the existence of immigrants' ties to the home country, an interest in the wellbeing of their families, an ownership of assets in the source country or an intention to return. In this role, remittances are an element of several theories of initiation and perpetuation of migration. In disregard of the fact that they establish an important channel *via* which international labour migration can impact economies, income transfers are largely missing in the international trade theory models.

### 4.1. Motives

Motives of sending remittances appearing in the subject-relevant literature are summarized in Table 6. Remittances are absent in the neoclassical models. There, cross-border income transfers, if any, are tied to optimal savings' management. Immigrants invest their earnings in the place of origin when the local financial or real assets render higher returns or enable better risk diversification than alternative assets.

Not far from the neoclassical concept, remittances can represent payments for services. As suggested by Cox (1987) emigrants will transfer money to compensate stayers who take care of their assets or relatives. Viewed from this perspective remittances are a reflection of (an informal) trade exchange between the sending and the host country.

The NELM, focusing on a household instead of an individual, introduces a broader set of motives to remit. These motives range from self-interest to pure altruism. A self-interested individual who at some point of life considers return may remit to demonstrate laudable behaviour, signal prestige or increase her chances to inherit after other family members. An altruistic migrant, in turn, shares her income with non-migrants (Stark 1999) simply because she cares about her kin or friends.

An emigrant can also remit on a basis of an implicit contract between her and her family (community) members. The informal loan contract can be established to e.g. finance education or the cost of travel of an emigrant, and will combine elements of investment (by stayers) and repayment (by the emigrant). These contracts are going to be agreed when an access to loans or insurance schemes in the source country is limited. Still, the family contracts have to be self-enforcing. Contracts' enforcement can base on social norms (a fear of loss of reputation and ostracism), some

degree of altruism or an inheritable wealth. In the latter case, stayers use a threat of denying inheritance to an emigrant if she does not repay her loan or opts out from a co-insurance agreement.

The exchange motive and the NELM connect remitting with the existence of interpersonal links between the emigrant and non-migrant family members (when either altruism or care for kin explains income transfers) or directly with the emigrant's willingness to return home (when money is sent home to acquire higher prestige, for investment purposes or to increase the probability of inheritance). The reasoning for remittances interrelates, albeit to a differing degree, with factors framing temporary movements of workers.

Stark (1995) offers an alternative explanation of remittances which refers to strategic interactions between migrants and non-migrants. He bases on an assumption that employers in the host country statistically discriminate between foreign workers on the basis of their country of birth. Thus, an inflow of low-skilled workers can hamper employment chances and wage prospects of the already resident immigrants from the same region. The actual immigrants send money home in an attempt to forestall emigration of their lower-skilled natives and control the average productivity of their native group in the recipient country. The strategic motive is driven by self-interest and independent of the duration of a worker's sojourn abroad.

## 4.2. Empirical evidence

A high level of the economic activity in the host country and a good labour market situation of an immigrant herself are, as a rule, found to increase the level of remittances sent to the source country. The conclusion comes from two exhaustive overviews of the empirical literature on remittances by Rapoport and Docquier (2006) and Hagen-Zanker and Siegel (2007). The empirical relationship between an immigrant's income and the size of her income transfers is consistent with most of the motives for sending remittances.

A good investment climate, a stable political and economic situation in the home country (reflected *inter alia* in the stability of the local currency) are usually positively correlated with the size of income transfers from emigrants (Aydas, Metin-Ozcan, Neyapti 2005; Catrinescu et al. 2009). However other variables relevant for efficient portfolio management, including the relative interest rate and returns on non-financial assets in the source country, do not always help to predict the level of remittances (Straubhaar 1986; Schiopu, Siegfried 2006). Also a lower volatility of emigrants' income transfers as compared to FDI or foreign aid speaks against the prevalence of the investment motive (Solimano 2003; Salomone 2006; Kukulenz, Buch 2004). A failure of the exclusively portfolio-related variables to describe the dynamics of remittances indirectly supports explanations which refer to familial or preference ties of immigrants to their countries of origin.

A certain degree of altruism or the existence of informal insurance arrangements between family or community members can stand behind a negative correlation of remittances with the source country business cycle documented by Bouhga-Hagbe (2004; 2006).<sup>8</sup> Also evidence on the response of remittances to exchange rate or inflation shocks commensurate with the altruism and the insurance motives of sending remittances. Loser et al. (2006) summarizes the empirical literature

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<sup>8</sup> Sayan (2006), Durdu and Sayan (2010) show that the negative relationship between cyclical GDP fluctuations and inflow of remittances does not always hold.

demonstrating immigrants' desire to stabilize transfers to their families in real, purchasing power, terms. Micro evidence on the importance of altruism is mixed. The pure altruism hypothesis, where family members pool all their individual incomes is rejected by data (Altonji, Hayashi, Kotlikoff 1992; 1997; Cox, Eser, Jimenes 1998). Corroborating the weaker form of the altruism hypothesis, there seems to exist a negative relationship between a total number of emigrants in a household and the size of remittances sent by each of them (e.g. Agarwal, Horowitz 2002, for Guyana). In line with both the altruistic and the insurance motive, a difficult economic situation of non-migrant family members or a high family dependency ratio are often positively related to the level of remittances received by the family (Cox, Eser, Jimenes 1998; Agarwal, Horowitz 2002).

The insurance hypothesis is backed by evidence on the response of remittances to income shocks hitting households in the source country. Lucas and Stark (1985) document that households with assets sensitive to a drought received higher transfers in the aftermath of this natural disaster than other households with emigrant members in Botswana. Working with macroeconomic data Halliday (2006) shows that emigration from and remittances to El Salvador go up in response to a negative agricultural shock. Finally, the insurance motive is supported by studies finding a positive relationship between the probability of transfer and the level of remittances and the host country income risk, e.g. Amuedo-Dorantes and Pozo (2006) for Mexican immigrants to the U.S.

Microeconomic data hold up the informal loan contracts' hypothesis. Ilahi and Jafarey (1999) indicate a positive link between the probability of transfer and the level of remittances to families in Pakistan and financial help received by the emigrants to cover their migration costs. Cox, Eser and Jimenes (1998) document the existence of a similar relationship between income transfers and earlier investment in education of Peruvian emigrants.

Self-interest can explain a robust empirical relationship between the probability and the size of remittances on the one hand and return intentions of immigrants on the other, discussed in the following sections. Lucas and Stark (1985) report that remitting patterns of emigrants from Botswana are consistent with the insurance motive. Sons remit the more the wealthier their families are. The positive relationship between the size of remittances and family wealth is in turn not observed for emigrant daughters who are traditionally less likely to inherit. The inheritance motive proved to be also helpful in describing the dynamics of remittances to Western Kenya, the Dominican Republic (de la Briere et al. 1997) and Kosova (Havolli 2009).

A great deal of empirical studies on remittances is conducted on the basis of data for developing countries. This partially reflects high economic significance of these income transfers for Latin American, African and some Asian countries (e.g. Rapoport, Docquier 2006). The catching-up economies are, however, generally poorer, have less developed capital and insurance markets, higher income volatility, weaker social assistance systems and more extreme inequality levels than developed regions. A great share of their population is still active in agriculture. Thereupon, not all empirical results discussed in this section can be expected to apply to advanced economies.

### **4.3. Economic effects of remittances**

The presence of remittances challenges implications of the neoclassical trade theory models. Income transfers from emigrants to the source country disturb the picture of labour migration as a phenomenon reflected mostly in changes of labour supplies in the affected countries.

First, remittances extend the impact of migration on labour supply in the sending country beyond the imminent consequences of the departure of some workers. Reception of remittances affects labour market decisions of stayers. As emigrants have only limited possibility to monitor non-migrants, a moral hazard problem arises and stayers can cut short on their work effort and labour supply. Less acute examples of the income effects of remittances include the prolongation of job search or higher involvement in household instead of market production e.g. raising children. Kozel and Alderman (1990), Funkhouser (1992), Cabegin (2006) provide evidence on the lower labour market participation of recipients of remittances in Pakistan, Nicaragua and Philippines, respectively.

Second, remittances invested in productive capital contribute to an increase in the productivity of labour. This channel is especially relevant in countries with shallow capital markets where other sources of financing are the least available. Woodruff and Zenteno (2001) establish that transfers from emigrant family members and the repatriated savings of return migrants are an important source of capital for microenterprises in Mexican urban areas, financing around 20% of their investments. A high propensity of return migrants to set up their own businesses, discussed in the next section, can be another reflection of the use of savings accumulated abroad for investment purposes. On the macro level, Taylor (1992) finds that the estimated elasticity of households' income to remittances in Mexico is significantly above one. According to him, the high 1.85 elasticity of income indicates that a significant portion of transferred resources are spent not on consumption but on income-generating assets. Giuliano and Ruiz-Arranz (2009) analyse the relation between remittances and investments in a broad sample of developing countries. They conclude that remittances can substitute for the presence of financial intermediaries. The less refined the financial sector is, the stronger the observed positive impact of remittances on the investment activity, and consequently, on growth in the economy. Looking at the former Soviet republics, Schrooten (2005) arrives at a complementary result that inflows of remittances to countries with insufficient access of households to credit are the highest.

Third, remittances can be used to finance human capital investments. Hanson and Woodruff (2003) and Bredl (2010) find that children from households with emigrant members complete more years of schooling in Mexico and Haiti, respectively. Along similar lines, Cox-Edwards and Ureta (2003) indicate that children from households which receive remittances have a lower school drop-out ratio than their peers.

Fourth, an inflow of remittances sets off emigration perpetuation mechanisms and influences labour supply on the local market over a longer time. Remittances can be used to cover the cost of travel of other workers when they are credit constrained. The theory of cumulative causation indicates that capital investments financed by remittances can facilitate the adoption of labour saving technologies in the source countries and encourage native workers to search for jobs abroad. The NELM suggests that remittances received by emigrants' households exacerbate the relative deprivation of other workers and incentivise them to emigrate. Remittances used to finance education and acquisition of skills can be expected to increase the emigration propensity of younger cohorts of workers.

To wrap up, remittances can affect production capacities of the sending economy by a whole set of channels: labour supply, in particular through the participation rate and the emigration propensity of stayers, physical and human capital accumulation. The net effect of income transfers on the potential product of the economy is ambiguous. For instance, a withdrawal of stayers from

labour market reduces the potential GDP of the sending economy while a kick-starting of new enterprises translates into potential product gains.

Remittances affect macroeconomic outcomes also at business cycle frequencies. Since they are less sensitive than other transfers to changes in the investment climate, they are commonly expected to contain the effects of sudden capital withdrawals (Bugamelli, Paternò 2009). Against this expectation, El-Sakka and McNaab (1999) suggest that if income transfers are predominantly used to finance consumption and less so for investments purposes, they can occasionally destabilize an economy. This argument is raised in the context of Egyptian economy between 1967 and 1991, where an overhang of consumption financed by remittances fed into a persistent trade account imbalance. An inflow of remittances can also lead to the appreciation of a currency and undermine the profitability of local industries (Amuedo-Dorantes, Pozo 2004, for Latin American and Caribbean countries).

## 5. Return migration

While the previous sections deal with mechanisms that promote or reinforce labour migration and developments that accompany or result from it, this section touches upon the issue of return. Reasons for return are more often than not blended with factors that encourage migration of a worker in the first place. However, and similarly as in the case of remittances, literatures on return migration have developed later in time, creating its own vocabulary, puzzles and methods of empirical investigation.

### 5.1. Motives

Table 7 presents a short summary of motives for return migration. From the microeconomic life-cycle perspective individuals return when the marginal benefits of staying abroad become lower than the related marginal cost. The discussion within the theory centres on determinants of these benefits and costs, or equivalently, of the optimal duration of a sojourn in a foreign country.

Berg (1961), Hill (1987), Djajic and Milbourne (1988) suggest that workers return because they simply prefer to live in their country of origin. They resort to emigration being lured by better job opportunities abroad. Dustmann (1996; 2003) adds two further motives for return: higher purchasing power of emigrants' earnings and higher returns to human capital acquired abroad in the source country.

The target income perspective puts greater emphasis on a target savings level than on the optimality of the duration of a stay. The target income interpretation of returns rests on the assumption that emigrant workers want to accumulate enough savings to reach a particular, established *ex ante*, level of a lifetime income. As migrants favour living in the home country they opt for return as soon as they collect enough money. The target income and the life-cycle description points that the length of a sojourn in the destination country increases with relocation costs and higher wages at the origin country. The target income view implies, however, that better earnings in the destination country shorten immigrants' stay. Better earnings prospects in the host



country impact the duration of immigrants' sojourn ambiguously, when they compare the marginal benefits and costs of living away from home in line with the genuine life-cycle approach. The income effect of higher earnings works in the direction of shortening their stay but the substitution effect delays their return.

Workers who undertake migration due to capital market imperfections e.g. limited access to capital or instability of the local currency in the home country can serve as an example of target savers. As posed by Lindstrom (1996) and Mesnard (2004) these migrants return when they accumulate sufficient capital to overcome the (*ex ante* known) minimum investment threshold and start an entrepreneurial activity.

When the emigration decision has been based on erroneous information or on a too optimistic assessment of labour market conditions in the destination country, its revisal can imply the worker's return. This intuitive explanation of returns is provided by Yezer and Thurston (1976), and Allen (1979). The corrective returns can be undertaken by intentionally temporary (re-emigration follows earlier than originally envisaged) and permanent emigrants. Borjas and Bratsberg (1996) speculate that disappointed workers, who return, will be the ones whose abilities are the least demanded in the host country. Thus, return migration driven by the corrective motive should accentuate the initial self-selection of immigrants. If immigrants are positively selected, then the brightest will stay. When they are adversely selected, the best will leave. Stark (1995) and Katz and Stark (1989) develop a model where corrective re-emigration arise when employers learn about the individual productivity of foreign workers. Only when a job is created, the symmetrical information about the immigrant's productivity can be reinstated and her wage rate be adjusted accordingly. In this case, return is undertaken by the least productive employees, whose wages will be cut, independent of the initial skills distribution of foreign workers.

## 5.2. Empirical evidence

The life-cycle description of return migration is supported by empirical evidence on the negative relationship between migration costs and the probability of return. The higher the entry costs, the longer an emigrant has to stay in the host country to accumulate positive savings. Borjas and Bratsberg (1996) document that the probability of re-emigration from the U.S. is negatively related to the distance between the U.S. and the worker's country of origin. Reichert and Massey (1979) consider differences in the duration of stays of legal and illegal immigrants in line with a presumption that entry costs into a foreign market can be expected to be higher for the latter. They show that undocumented migrants from Guadalupe stay in the U.S. on average for three months longer than their legal counterparts. Reyes (2004) demonstrates that changes in the U.S. immigration policy had a significant impact on the average trip duration of Mexican workers. Amnesty granted in 1986 to certain groups of illegal immigrants in the U.S. shortened the average duration of a sojourn while a build-up of the wall at the U.S.-Mexican border that followed, lengthened it.

Dustmann (2003) finds that the duration of immigrants' stays in Germany decreases if wage differentials as compared to their source countries grow larger. This finding supports the life-cycle perspective, and in particular its target income vantage. An increase in foreign earnings allows immigrant workers to cover migration costs and accumulate wealth after a shorter sojourn.

Return migrants have a higher probability of non-employment than stayers in Sri Lanka (Athukorala 1990), Mexico (former emigrants to the U.S., Aleman-Castilla 2007), and Albania (Piracha, Vadean 2009). A high share of return migrants who withdraw from the labour market suggests that other factors than better income perspectives bring emigrants' back home. Above all, the low participation rate of returnees can indicate the relevance of location preferences and/or the existence of a favourable price level difference between the source and the host economy. Return at the end of a working life can serve as another example of migration which is supposedly unrelated to earnings differentials. Klinthall (2006a) shows that the return probability for immigrant workers in Sweden aged between 51 and 80 peaks at the age of entering (the official) retirement age. Cobb-Clark and Stillman (2008) look at information on the age and the retirement status of immigrants in Australia and deduct that the re-emigration propensity is particularly high at the moment of reaching the retirement age.

The earlier in life the immigrant enters the host labour market and the longer she stays, the higher should her host country-specific skills be. Accumulation of skills can overlap with social aspects of a longer stay, e.g. having a family in the host country. For these reasons, the alternative costs of return should be the highest for immigrants who either entered the host market country being young or whose sojourn in the country is already long. The return propensity of immigrants indeed decreases with a number of years spent in the foreign country. Steiner and Velling (1992) document a negative relationship between the duration of stay and the likelihood of return for immigrants to Germany, Nekby (2006) for immigrants to Sweden, Bratsberg, Raaum, Kjetil (2007) for immigrants to Norway and Jensen and Pedersen (2007) to Denmark.

The life-cycle hypothesis predicts that a migrant will return when education or job experience acquired abroad improves her income opportunities in the home country. The role of returns to foreign experience in Ireland is researched by Barrett and O'Connell (2001). They estimate that male return migrants earn around 10% more than non-migrants. Those returnees who emigrated for job reasons earn 15% more than non-migrants. Co, Gang, Yun (2000) report that Hungarian women who have been abroad earn more than non-migrant women but men's earnings are not affected by their stay abroad. Iara (2006) and Martin and Radu (2008) validate the existence of positive returns to foreign experience in the Central and Eastern Europe. The latter work contains also a brief overview of earlier results on the wage premium of return migrants in the region.

A substantial number of empirical works assesses the return as the end of a successful migration episode which has been aimed at collecting capital. Lindstrom (1996) documents a positive relationship between the duration of a stay of Mexican immigrants in the U.S. and investment opportunities in their origin area. He interprets the outcome as indicating that migrants stay longer and save more when the capital can be later put to more productive use. Along similar lines, Massey and Espinoza (1997) show that Mexican migrants from more developed regions (regions with higher wages and a higher share of working women) tend to stay abroad for longer. Yang (2006) notices that depreciation of the home currency leads to earlier return of the middle income emigrants from Philippines and has a positive impact on the level of their investments in productive and housing capital.

A high propensity of returnees to set up their own business provides another backing for emigration and return being tied to capital market imperfections in the source country. Piracha and Vadean (2009) show that return migrants to Albania are more likely than non-migrants to

become entrepreneurs. Further, Coulon and Piracha (2005) assess that 10% of returnees to Albania use their foreign savings to set up a business. The probability of owning a business even increases after some time a return migrant spent at home (at the cost of a decrease in her propensity to remain out of the labour force). Athukorala (1990) documents that 16% of the surveyed returnees to Sri Lanka in 1984 were self-employed after less than a year from their return and 30% after a longer period. A share of persons in the same sample who were self-employed before their emigration was only 10%. Contract emigrants from Sri Lanka had also a very high savings rate (70% on the average). Moreover, the propensity to consume out of remitted income by Sri Lankan households, 44%, was significantly lower than the average propensity to consume for the whole economy, 94%. Ilahi (1999) shows that the return migrants to Pakistan who eventually become self-employed save more than other returnees while being abroad. McCormick and Wahba (2001) and Wahba (2004) describe a similar relationship between the savings propensity and later self-employment among Egyptian and Mesnard (2004) among Tunisian emigrants. Dustmann and Kirchkamp (2002) indicate that half of return migrants from Germany to Turkey in 1984 became active as entrepreneurs. Capital for starting off their businesses stemmed from savings accumulated in Germany. Besides, higher German earnings of the prospective Turkish entrepreneurs had a negative impact on the duration of their sojourn abroad, which is consistent with their attempt to save just enough to launch a business at home. The causality between the saving propensity and self-employment can run in both directions. Not only future entrepreneurs can be more motivated to save, but also higher savings accumulated abroad can make it *ex post* more beneficial to become self-employed rather than an employee or a non-participant.

The desire to become self-employed can also relate to human capital accumulation during a stay abroad. A role of migration experience for the acquisition of business skills is emphasized by McCormick and Wahba (2001), Dustmann and Kirchman (2002) and Piracha and Vadean (2009). In accordance with this argument, Coulon and Piracha (2005) hint that in Albania returns to foreign experience are the highest in self-employment or managerial positions.

Consistently with the life-cycle and with the correction hypothesis re-emigration typically occurs soon after the entry into the host country. Secondly, labour market outcomes are an important determinant of return migration. Klinthall (2001) shows that the return probability of male immigrants from Chile, Germany, Greece, Turkey and the U.S. varied positively with changes in the unemployment rate in Sweden. Bellemare (2003; 2004), Constant and Massey (2003) report that return migrants from Germany are negatively selected in terms of employment outcomes. Lubotsky (2007) argues that the selective out-migration of low-wage foreign workers is responsible for a steeper U.S. immigrants' wage profile in the cross-section as compared to the longitudinal data. Klinthall (1998; 1999) evaluates return migration from Sweden between 1970 and 1993. He points out that having no or a very low income increased the probability of re-emigration of German and Greek workers (but not of Italian and the U.S. immigrants). Rooth and Saarela (2007) trace down Finnish individuals who migrated to Sweden and who were generally negatively selected from the Finnish population. They observe that re-emigration is non-random and strengthens the initial selection: these are relatively the best skilled who come back home.

## 6. Temporary versus permanent migration

### 6.1. Theoretical postulates

A few proposals have been raised in economic literature on why the behaviour of temporary and permanent migrants can differ. In particular, temporary and permanent migrants may:

- exhibit different savings behaviour (Galor, Stark 1990; Dustmann 1997a),
- exhibit different remitting patterns (Glystos 1988; Sinning 2007),
- behave differently on host labour markets (Galor, Stark 1991; Dustmann 1997b),
- pursue different strategies of human capital investments (Dustmann 1993; 1999; Dustmann, Glitz 2011).

Intuitively, an intention to return links the behaviour of a temporary migrant to the situation in her home country. Galor and Stark (1990) argue that temporary immigrants save more than settlers in the anticipation of a lower income when they return home. By a similar token, Dustmann (1997b) speculates that the marginal utility from the accumulated wealth is higher for temporary than permanent immigrants because they expect their future economic situation (already in the home country) to be relatively unfavourable. Dustmann (1997a) indicates that the saving propensity of temporary migrants should depend not only on the wage differential between the source and the host country but also on the relative magnitude and a correlation of labour market shocks between the regions. If labour market shocks are positively correlated, temporary immigrants from poorer countries will indeed save more. However, if the shocks are negatively or not correlated, temporary immigrants will save less than settlers or natives. When labour market situation in the host country turns sour they can always terminate their stay.

Galor and Stark (1991) suggest that in order to maximize their savings temporary immigrants will outperform natives holding similar jobs and having similar skills. On the other hand, as suggested by Dustmann (1993; 1999), the limited duration of a stay abroad will discourage temporary immigrants to bear too high costs of investments into the host country-specific human capital. Dustmann and Glitz (2011) hint that weaker incentives of temporary stayers to invest in the host country-specific skills can introduce a certain degree of heterogeneity between earnings profiles of temporary and permanent immigrants.

### 6.2. Empirical evidence

Not many data sources contain information on the return intentions of migrants. The German Socio-Economic Panel (GSOEP) is one of very few surveys that include a question on return plans. Therefore, a high share of studies on differences between temporary and permanent migrants refers to foreign workers in Western Germany. Using the survey, Bauer and Sinning (2005; 2009) document that temporary immigrants have a significantly higher savings propensity than permanent immigrants, once remittances are included in their savings. This outcome is in line with results from the earlier study by Merkle and Zimmermann (1992) who show that the longer planned duration of a stay does not impact the value of savings held by foreign workers on German bank accounts but reduces their remittances. It would imply that the total savings of

immigrants who attempt to stay longer in Germany are lower than savings of their counterparts who plan a shorter sojourn. Piracha and Zhu (2007) establish that immigrants' savings dropped after the reform in 2000 which eased the naturalization rules in Germany. Provided that the reform increased a share of immigrants attempting to settle down, the documented reduction in the savings rate points to a positive relation between return intentions and the accumulation of wealth.<sup>9</sup> By contrast, Dustmann and Mestres (2010) do not find statistically significant differences between the savings rates of temporary and permanent immigrants.

Bauer and Sinning (2005; 2009) demonstrate that remittances represent a substantial part of the total savings of temporary immigrants, while they make up for a much smaller share of savings of permanent immigrants. Dustmann and Mestres (2010) establish that German immigrants with a return plan send a higher proportion of their savings to their home country. Also the value of financial and housing assets held in the source country is higher for immigrants who consider their stay as temporary than for settlers. Besides, the value of assets held in the host country is higher for permanent than for temporary immigrants.

Merkle and Zimmermann (1992) and Sinning (2007) show that return intentions of foreign workers in Germany are positively correlated with the probability of transfer and the size of their remittances. De la Briere et al. (1997) and Brown (1997) find a positive relationship between return plans and remittances for emigrants from the Dominican Republic and immigrants from Africa to Australia, respectively. The two latter works are based on survey data containing (similarly as the GSOEP) information of return intentions of migrants which is provided either by migrants themselves or by their relatives.

Glystos (1988) focuses on motives of sending remittances which are predominant for temporary and permanent migrants. He uses the aggregate data on inflow of remittances from Germany and Australia to Greece. Next, he postulates that Greek emigration to Germany is mostly temporary, and Greek emigration to Australia mostly permanent. According to his results temporary migrants are more likely to remit for investment and future consumption purposes and permanent migrants for altruistic reasons. De la Briere et al. (1997), who distinguish temporary and permanent migrants directly on the basis of their declared return plans, arrive at similar results. Remittances of temporary emigrants from the Dominican Republic exhibit dynamics consistent with the investment motive. In contrast, (female) emigrants with no intention to return send remittances to co-insure (or altruistically share wealth with) their family members.

Dustmann (1997b) provides evidence that labour supply of temporary immigrants is higher than that of settlers. In particular, he finds that married, immigrant women have a higher propensity to participate in the German labour market if they plan to return than if not. At the same time, Dustmann (1993) shows that temporary immigrants tend to have flatter wage assimilation profiles than permanent migrants. The latter finding is consistent with weaker incentives of temporary immigrants to invest in the host country-specific skills. Again, on the bases of the GSOEP data, Dustmann (1999) lays out that a longer planned sojourn in Germany has a positive impact on immigrant's fluency in German. Khan (1997) and Cortes (2004) provide the corresponding evidence on heterogeneous patterns of human capital investments of immigrants in the U.S.

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<sup>9</sup> It should be noted that differences in saving behaviour between temporary and permanent migrants versus natives may result not only from their diverse re-emigration plans but also reflect their various cultural and economic background as well as unequal access to social welfare programs (Bauer, Sinning 2005).

They distinguish between refugees, who are the least likely to return home and the most likely to settle in the U.S., and economic immigrants. It appears that refugees invest more in schooling, make greater progress in learning English, and have steeper wage and employment profiles (measured in number of hours worked) than other immigrants.

Motivation to emigrate of temporary and permanent migrants can also differ. Using the survey of the high-skilled settlement visa holders in Australia, Khoo et al. (2003) compares declared reasons of migration of temporary and permanent visa holders. Khoo et al. (2003), in turn, search for factors that influence the willingness to settle in Australia permanently after an expiration of the temporary settlement visa. The two works suggest that permanent migration is more likely to be driven by push, source-country related factors. Former residents of countries with a low *per capita* income, bad employment prospects or unstable political environment more often apply for the permanent visa in the first place or flag the intention to stay permanently after having received the temporary visa. By contrast, immigrants from developed countries relatively more often wish to stay only temporarily and are attracted by pull factors, especially by an opportunity to acquire new job experience.

Looking at the same problem from a slightly different perspective Klinthall (2006b) illustrates that return migration to countries with stable economic and political situation is more probable. Wage convergence in the Scandinavian countries facilitated return of economic immigrants from the region: 50% of immigrants who arrived in 1970 returned within 5 years from their entry and 50% of immigrants who arrived in 1990 already within 3 years. At the same time non-Scandinavian immigrants who are dominated by refugee immigrants had significantly lower return rates with only 10% of those who arrived in 1990 leaving Sweden in 5 years. Further, Klinthall (2007) indicates that the return rates of refugees to Sweden increase when political tensions or a civil war erupt in the source countries. The increase is more pronounced when the economic situation after political stabilization is better (e.g. Chileans who escaped to Sweden in the 70s reacted stronger to the democratization process in their home country in the 90s than Poles to the developments in theirs).

## 7. Conclusions

Economic theories rarely distinguish between temporary and permanent labour migration. The neoclassical life-cycle theory puts emphasis on the relative returns to workers' abilities. As such, it identifies some related motives for temporary stays abroad e.g. when migration is aimed at accumulating human capital which offers a high payoff in the source country. In the NELM theory, temporary emigration appears in a setting with malfunctioning capital markets and the minimum investment threshold. Workers leave the country of origin to accumulate wealth with an intention to invest it after return. Other migration motives provided by the NELM, co-insurance of family members and overcoming of relative deprivation, can apply similarly well to temporary and permanent movements. An important element of all the NELM motives is the home country attachment of migrants, be it in the form of keeping contact with non-migrant family members or having a native reference group. Maintenance of these ties, even if not directly related to return intentions, should ease the potential return of emigrants by reducing costs of (or increasing gains to) re-entry in the local community and labour market.

The neoclassical macroeconomic theory, similarly as its microeconomic counterpart, sees migration as a phenomenon driven by wage differences between regions. In contrast to the life-cycle theory, workers are assumed to have identical skills, individual labour supplies and, in the international trade models, consumption patterns. Homogeneity of immigrant and native workers suggests that the theory corresponds the most closely with settlement migration. Nevertheless, its description of economic drivers and key labour market consequences of migration (shifts in local labour supplies) fits temporary labour migration as well. The bifurcated labour markets, the world system and perpetuation theories of labour migration are largely agnostic about the duration of migrants' sojourns abroad. Yet, elements of these theories such as a native reference group (in the dual labour market theory), importance of remittances or the influence of emigrants on cultural norms in the source communities (in cumulative causation theories) manifest the existence of links between migrants and their home countries.

The literature on differences between temporary and settlement migrants is relatively narrow. A picture of a temporary migrant emerging from theoretical arguments is a worker who works hard during her stay abroad and saves or remits a significant share of her income. At the same time, she has less motivation to learn a local language, integrate or invest in host country-specific skills than the permanent immigrant.

These rather intuitive claims are generally supported by data. Temporary migration is more likely to prevail between regions divided by only moderate income and quality of life differences. Political conflicts and extreme poverty in the origin countries trigger mostly permanent migration. Temporary immigrants have a relatively high saving propensity and transfer a great share of their savings to their home countries. In contrast to settlers, they usually remit for investment rather than altruistic or insurance purposes. They also invest more than permanent immigrants in assets in the source country and less in the host country. Further, temporary immigrants indeed assimilate to a lesser degree than permanent migrants, which is *inter alia* reflected in their relatively flat wage profiles. Empirical evidence on the behaviour of return migrants provides complementary information on the common traits of temporary migrants. Returnees have a significantly higher probability rate of becoming entrepreneurs than non-migrants and they often use funds accumulated abroad as a start-up capital. These return migrants who are not self-employed often withdraw from the local labour market and simply live on their foreign savings.

Regrettably, the majority of empirical studies cover only a subset of issues related to cross-border labour movements. Data limitations lead to over-representation of studies focusing on a particular migration wave (e.g. German guest workers) or to a frequent use of non-representative samples. Scarce data sources are also reflected in certain subjects being analysed mainly for particular regions. For instance, migration is studied mostly from the perspective of recipient developed countries and effects of emigration on source economies are less thoroughly described in the literature. Another example is a great share of research on remittances falling on Latin America and Africa. Above all, data which inform about intended duration of migrants' stays abroad are an exception rather than a rule. Therefore, a considerable share of the anyhow meagre literature dealing explicitly with temporary migration is based on the German GSOEP data. Fragmentary data cause problems when deducting, comparing or projecting conclusions from available studies. Developing new surveys and data for more countries, which would allow tracking individuals over time and cover information required for the identification of incentives to leave, return and remit jointly, may be crucial to facilitate research on temporary migration.

Lower transportation and communication costs have proven to encourage proportionately more temporary than settlement labour movements. Thus, an increasing share of migrants in the XXI century can be expected to plan to return home. Return intentions of workers can in turn influence patterns of adjustment of source and host economies to migration waves or to other macroeconomic shocks. For instance, other things equal, sending of remittances should be more prevalent among temporary than permanent migrants. Otherwise, temporary labour movements can be speculated to accommodate negative domestic shocks better than the permanent mode of migration. Permanent migration waves are (at least intentionally) one directional. Temporary immigrants who keep closer ties to their home countries bear lower costs of re-emigration in the face of economic slowdown in the host country. These hypotheses on the macroeconomic impact of different types of labour migration could be tested. Not least importantly, studies taking a general view on interrelated phenomena related to specifically temporary cross-border movements of labour which could pose an alternative to the neoclassically grounded trade theory models are needed.

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**Annex**

Table 1

Theories of international labour migration

<b>Microeconomic</b>	<b>Higher level of aggregation</b>	
<b>Initiation of migration</b>		<b>Perpetuation of migration</b>
	Neoclassical migration theory	
New economics of labour migration		
	Dual labour market theory	
		World system theory
		Network theory
		Institutional theory
		Cumulative causation



Table 2  
Microeconomic theories of international labour migration

<b>Level of analysis</b>	<b>Motive</b>	<b>Destination choice</b>	<b>Markets</b>	<b>Utility</b>
Neoclassical migration theory				
Individual	Maximization of the expected discounted income	Destination where the expected returns to individuals' skills are the highest. As workers are heterogeneous (e.g. skilled and unskilled), selectivity patterns of workers to alternative directions can differ.	Cost of migration (monetary and non pecuniary). All markets clear.	Standard
New economics of labour migration				
Household	Minimization of risk	Destination where labour market conditions are negatively or weakly correlated with the labour market situation in the source country.	Incomplete insurance markets, e.g. unemployment, disability, crop insurance markets, crop futures market.	Altruistic. Risk averseness
	Acquiring physical or human capital in the presence of capital constraints. Minimization of relative deprivation		Incomplete capital markets	Standard  Importance of relative consumption/income

Table 3  
Theories of international labour migration focusing on higher aggregation level

Level of analysis	Driver	Markets	Mechanism	Direction of flows	Implicit micro drivers	Pull/push
Neoclassical theory						
Regional	Disequilibria on local labour markets	Cost of migration (monetary and non pecuniary). All markets clear.	Workers move to regions where wages are higher.	To regions with relatively high demand and low supply of labour.	Income maximization for migrants.	Pull and push
Dual labour market theory						
National	Economic development in recipient regions	Segmented labour markets. Separation of sectors <i>via</i> institutions and/or different human capital requirements.	Migrants fill bottlenecks in the secondary sector. These arise due to high wage differences between sectors. Wages in the secondary sector are kept low by social norms or technological constraints.	To developed countries.	Reduction of labour costs by employers. Income maximization by migrants. Status concerns of natives.	Pull
			Migrants fill bottlenecks in the secondary sector. Native workers are not motivated to take up secondary sector jobs.			Pull
			Migrants fill bottlenecks in the secondary sector. Demographic transition limits supply of native workers willing to take secondary sector jobs.			Pull

World systems theory			
International Globalization	International goods markets.	To compete on global markets farmers consolidate land and introduce new production methods. Lower demand for labour in agriculture contributes to the creation of the mobile labour force.	To developed countries from developing countries penetrated by globalization.
	Minimization of costs by producers.	Push	
	Transformation to segmented production process, increased specialization.	Reorganization of production so that it is based on paid labour and is concentrated in global cities pushes workers out of traditional communities.	Minimization of costs by producers.
	Low (and decreasing) costs of transportation. Movements of goods, capital and labour between national markets.	Development of communication and transportation networks in peripheral regions, which is often initiated by foreign investors, reduces the costs of labour movements.	Reduction of the monetary costs of migration.
	Evolution of social norms.	Impact of global culture and foreign companies on population in remote areas makes workers more mobile and motivated to move. The impact can have the form of influence on skills, expectations of workers, introduction of new work patterns (feminization), education and institutions.	Reduction of the social costs of migration (when social norms matter).
			Push

Table 4  
Theories of perpetuation of international labour migration

<b>Channel</b>	<b>Mechanism</b>	<b>Markets</b>	<b>Implicit micro driver</b>	<b>Push/ pull</b>
Networks	Networks constitute a form of social capital that workers can draw upon to gain access to foreign employment.	Network theory Incomplete information about foreign labour markets.	Declining costs and risks of migration.	Pull
Institutions (private and voluntary organizations promoting immigration)	Institutions that provide services (underground or humanitarian) for workers willing to enter the market. These institutions constitute a form of social capital for new entrants.	Institutional theory Legal or information flow barriers between labour markets.	Profit driven activity of organizations. Declining costs and risks of migration.	Pull
Social norms: culture	Emigrants alter social norms/ attitudes toward migration in their source communities.	Cumulative causation Costs of movement.	Declining non-pecuniary cost of migration.	Push
Social norms: jobs	Concentration of immigrants in a sector stigmatizes it as the immigrants' sector.	Importance of job status for natives.	Increase in demand for immigrants.	Pull
Wealth	Remittances sent by emigrants impact wealth distribution in their home country.	Relative preferences.	Other workers emigrate to reduce their relative deprivation.	Push
Human capital	Remittances sent by emigrants support human capital accumulation by other workers in their home country.	Costly access to education (imperfect capital markets).	Higher earnings opportunities abroad for educated/skilled workers.	Push
Production process	Remittances sent by emigrants facilitate concentration of land and re-organization of agricultural production.	Declining demand for labour at home.	Declining demand for labour at home.	Push

Table 5  
Labour migration in international trade models

Model	Trade structure	Other model assumptions	Mechanism	Migration	Effects of migration	Comments
Ricardian model	2 goods (sectors)	Technology differences between countries. Labour as the only factor of production is mobile across sectors but internationally immobile.	A country exports a good in whose production it has the comparative advantage.	Absent		
Ricardo-Viner model	2 goods (sectors)	Technology differences between countries. Labour is mobile across sectors but internationally immobile. Immobile sector-specific factors of production.	A country exports a good in whose production it has the comparative advantage. Decreasing returns to labour in sectors limit the scope for specialization.	Absent		Dynamic version where sector-specific factors are mobile converges to the Heckscher-Ohlin model.
Ramaswami model	1 tradable good	No technology differences between countries. Exogenous factor supplies. Labour internationally mobile.	A country exports a good in whose production it has the comparative advantage. The comparative advantage is dependent on factor endowments.	Driven by labour supply-demand differences between regions (until wage equalization holds).	If production prices are constant (a small open economy) an increase in labour supply leads to an increase in output and some negative effects on wages.	

Heckscher-Ohlin model	Variety of goods	No technology differences between countries. Exogenous factor supplies. Labour internationally mobile.	A country exports a good in whose production it has the comparative advantage. The comparative advantage is dependent on factor endowments.	Driven by labour supply-demand differences between regions (until wage equalization holds).	Rybczynski theorem: if production prices are constant (a small open economy) an increase in labour supply gives rise to a more than proportional increase in output of the labour intense good (and reduction of supply of other goods). No effects on wages follow.
Monopolistic competition models	Variety of goods	Production factors, including labour, internationally mobile. Increasing returns to scale (i.e. due to the presence of fixed costs).	Self-facilitating process of agglomeration of production factors. The process leads to the establishment of a few production centers specializing in particular goods.	Workers migrate to regions with higher wages and employment chances. Due to economies of scale, more populous regions offer better employment chances and higher wages at the same time.	Explains the intra-industry trade.
Taste for variety and ideal product based models	Variety of goods	The presence of informational frictions between markets.	International trade involves interactions between buyers and sellers. These arise only when sufficient information about the offer of the other party is available.	Not explained	Facilitates trade exchange between countries.

Table 6  
Motives for sending remittances

Motive	Mechanism	Utility	Markets	Other
Life-cycle				
Location specific preferences	Return follows when the marginal lifetime benefit from the additional income to be earned overseas falls below the marginal utility cost of being away from the home country.	Home bias		Provides an explanation of seasonal migration.
Returns to human capital accumulated in the host country		Standard		
Differences in the purchasing power between the source and the host country		Standard	The law-of-one price does not hold.	
Relative deprivation		Importance of relative consumption/income		
Life-cycle with capital constraints and a minimum investment threshold in a home country				
Returns to capital accumulated in the host country	Migrants return once they reach the target savings level.	Standard	Capital constraints in the home country.	
Correction of earlier decisions				
Experience of a worse than expected outcome abroad	Return takes place when benefits from migration appear lower after the arrival to the destination country.	Standard	Incomplete information about foreign markets.	

Table 7

Motives for return migration

Motive	Mechanism	Utility	Markets	Other	Type of migration
Portfolio considerations					
Higher or safer returns on savings		Standard			
Exchange motive					
Taking care of assets	Payment for services provided in the home country.	Standard	Imperfect information: family ties reduce emigrant's informational or monitoring costs.		
Taking care of relatives	Payment for services provided in the home country.	Standard			
Self-interest					
Acquiring or enhancing prestige		Importance of the relative consumption/income			Temporary
Inheritance		Standard			
Altruism					
	Migrant sends remittances home because she cares about welfare of her family.	Altruistic		Moral hazard problem: stayers can reduce their work and effort.	Permanent
Tempered altruism/enlightened interest					
Loan agreement	Remittances serve as a repayment for earlier financial support offered to an emigrant by her family. The informal loan could be used for the purpose of investment into human capital or covering migration cost.	Standard (with some degree of altruism)	Imperfect capital markets in the home country	Agreements have to be self-enforcing. Enforcement can be based on a sufficient degree of altruism within a family, social norms, inheritable wealth.	
Insurance arrangement	Remittances insure a household against an unanticipated income shortfall.	Risk-averseness (with some degree of altruism)	Imperfect insurance markets in the home (and possibly also in the host) country		



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Strategic behaviour		
Emigrants attempt to discourage low-productivity stayers from joining them. The former aim at keeping the average productivity of native immigrants in the destination high.	Standard	Imperfect information about foreign workers' skills. Statistical discrimination of immigrants in the host labour market.

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