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Temporary Migration in Theories  
of International Mobility of Labour

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Katarzyna B. Budnik

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Katarzyna B. Budnik – National Bank of Poland, e-mail: katarzyna.budnik@nbp.pl

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### **Abstract**

There is an increasing awareness of an empirical relevance of temporary migration. This literature overview attempts to summarize the current state of knowledge about drivers and economic role of temporary migration. It sets together elements of relevant theories of initiation, perpetuation and return migration, international trade and conclusions from a growing body of empirical literature on returns, remittances and behaviour of immigrants in host economies, including labour markets. Distinguishing between permanent and temporary migration may help to explain not only the dynamics of the actual labour force movements but also to better describe their impact on source and host economies.

JEL Classification: F22, J61

Keywords: temporary migration, migration theory, return migration, remittances

# 1 Introduction

Temporary migration makes up for a significant share of actual and historical cross-borders labour relocations. Hatton and Williamson (2006, ch. 5) date a transition between migration of a dominantly permanent to an increasingly temporary character to the beginning of XX century, when cost of travel were already substantially reduced. They argue that a decade before 1914 returning emigrants amounted to one third of immigrant wave to the United States. The post II World War evidence robustly confirm an important role of temporary migration, and especially so, in Europe (Baines, 1994, and Dustmann et al., 1996b). At least initially, most of immigrants have an intention to return to a country of origin. Nekby (2006) provides evidence that over 70% of migrants who entered Sweden intended to return. The return intention (within 10 years from 1983) was shared by over 55% of immigrants to Germany, as showed by Dustmann (1993). A high fraction of immigrants indeed depart from a host country. Borjas and Bratsberg (1996) estimate that 17.5% of immigrants who arrived to the United States between January 1975 and March 1980 left the country by the end of that period. Aydemir and Robinson (2008) calculate that around 35% of immigrants left Canada within 20 years from the time of entry. According to Dumont and Spielvogel (2008) the average re-emigration rate in 5 years after an arrival to a country varied from 60.4% for immigrants to Ireland to 28.2% to the Netherlands (and 19.1% to the U.S.). Klinthall (1999) reports that around one third of immigrants to Sweden left the country within five years from their arrival and fifty percent within ten years (between 1968-1993). Dustmann and Weiss (2007) document that only 60% of male and 68% female immigrants stay after five initial years from an arrival to Britain and intra-European movers have one of the highest propensities to re-migrate.

At the same time, economic literature surprisingly rarely distinguishes between temporary and permanent migration. Therefore, this article tries to address the gap between the acknowledged empirical relevance of and the deficient literature on temporary migration. In doing so, it provides an overview of existing theories and empirical studies which may improve our understanding of drivers and macroeconomic consequences of temporary labour movements. The overview has two major composites. The first is a stock-taking exercise summarizing research outcomes on migration, which can apply in cases when migration has a non-permanent character. The second is a collection of arguments supporting the claim that identification of migration movements as dominantly temporary or permanent, matters for a correct assessment of their impact on host and source economies.

In this review, temporary migration is broadly understood as a movement of an individual across national borders involving a change of her actual place of residence<sup>1</sup> and

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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 on the example of Mexican workers see for example Kossoudji and

with an intention to return to a country of origin<sup>2</sup>. The actual residence signifies a place to live, where a person normally spends her period of rest and which enables her to supply work on a local labour market on an ongoing basis. This definition of residence serves the purpose of integrating all cross-border movements of workers but stays abroad for very short periods only (days, weeks). It is conceptually very similar to more commonly used statistical definition of usual residence. For the purpose of the overview, the latter definition seems to be too restrictive in terms of a duration of stay abroad required before an immigrant can be counted as a resident of a host country (the United Nations recommendation is 12 months).

The definition of a temporary migrant underlines her plans and intentions rather than ex post assessment of her actual duration of a stay abroad. This interpretation follows closely intuition of Dustmann (1996b)<sup>3</sup>. These are plans and intentions are likely to shape behaviour of a migrant when staying abroad, e.g. emigrants planning to move only temporarily can be expected to maintain closer ties to the source country, family, friends, local labour and goods markets etc. than those who attempt to stay abroad permanently. As empirically a share of unintended returns and stays is significant (an evaluation of predictive power of intentions of return is presented for Western Germany by Dustmann, 1996b, for Sweden by Klinthall, 1995, and a dependence of return intentions on years already spend abroad i.e. by Steiner and Velling, 1992) the distinction between actual and planned duration of stay abroad is not only verbal. In practice, the preferred definition of a temporary migrant as a person who attempts to return for a significant period during her stay abroad, is cannot be always very restrictively applied. It is especially true while reviewing empirical literature on return migration as most of returnees are identified only ex post.

Selecting theoretical and empirical literature on temporary migration is a challenging task. Elements of migration research are present not only in economics but also in sociology or political sciences. In economics itself, migration is studied in contexts ranging from growth theory (Drinkwater et al., 2003, provide an exhaustive survey of this literature including the role of migration in endogenous growth models), theory of

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Ranney (1984).

<sup>2</sup>Dustmann and Weiss (2007) prefer to subclassify temporary migration into return, contract, circulatory and transient migration. The understanding of temporary migration followed here, encompasses return and contract migration. I silently assume that the behaviour of return and contract migrants, whose length of stay abroad is endogenously and exogenously determined, respectively, is sufficiently similar. Circulatory migration (when migrant worker move frequently between the host and the source country) is rather treated as a special case of repeated temporary migration. Transient migrants, whose stay in a foreign country before reaching other destination, are believed to be driven by similar incentives as native emigrants. For discussion of motives of temporary and onward migrants see e.g. DaVanzo (1976), Neckby (2006).

<sup>3</sup>Eade et al. (2006), who survey Polish immigrants in the U.K., next to immigrants who plan to stay in the U.K. for a short period of time only (whom they label either storks or hamsters) and those who intend to stay permanently (stayers), distinguish a category of searchers – namely immigrants who keep both options, of staying and returning, open. However, taking possibility of return into account searchers are likely to be (possibly weaker than stork or hamsters) interested in their position at home. In line with interpretation of migration presented here they should be counted as temporary migrants.

1 public choice (Gerdes and Wadensjo, 2008, are one of the recent examples) to demographics and public finance (see e.g. Tosun, 2009). In the overview, I focus mostly on subject-relevant economic literature and within it, I explicate aspects of endogenously driven temporary migration interrelated with medium run dynamics of labour markets and economies. Consequently, I abstract from migration tied predominantly to non-economic drivers as refugees migration, and treat legal and illegal migration jointly.

Narrowing the focus to medium run economic aspects of temporary migration, does not help to overcome a problem that (in economics) temporary migration started to be distinguished as a separate phenomenon only very recently. Other than that, the same theories that detach from discussion of issues specific to temporary or permanent migration, are themselves diverse, scattered along different fields and as such occasionally incoherent. 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.* Earlier, 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.*

Next, data limitations and, partially related, a dominant focus on host country perspective<sup>4</sup> contributed to uneven development of migration theory. Finally, most of works on migration applies a partial equilibrium approach. That may cause problems when comparing conclusions from different studies.

In the first section, I start with summarizing literature on economic determinants of international migration. I follow closely a review of migration theories and empirical studies (for the U.S.) by Massey et al. (1993, 1994)<sup>5</sup>. After them, I distinguish two pillars of the analysis: theories of initiation of migration and theories of its perpetuation. Later, I discuss a role of migration in international trade models. International trade models offer a general equilibrium insight in a medium- to long-run consequences of cross-border labour mobility. Beyond that, they put migration of workers in a broader context of mobility of any production factors. Important to state, the reviewed migration and international trade theories do not explicitly separate temporary from permanent labour movements.

The third and the fourth sections, compile motives of return migration and of sending remittances. The theoretical arguments discussed in these sections are supplemented with key empirical evidence supporting or speaking against them. Only then, in the

<sup>4</sup>Apart from greater availability of data on immigration than on emigration, higher interest in effects of migration on host economies is also tied to the fact that most research on the subject is still conducted in developed, migration receiving countries.

<sup>5</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., review of migration theories is provided by e.g. Bijak et al. (2004), Bijak (2006), Hagen-Zanker (2008).



fifth section, I turn to a joint evaluation of collected concepts and empirical outcomes in respect to their potential to explain workings and effects of temporary migration. The same section also summarizes results which speak for different behaviour of temporary and permanent migrants. The final section concludes.

## 2 Theories of Migration

Table 1: Theories of international migration

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

Source: Based on Massey et al. (1993).

Theories of international migration can be subdivided into ones with a micro and a higher aggregation level perspective. Table 1 classifies single theories discussed in the section according to level of the analysis, separating between theories of initiation and perpetuation of migration. Microeconomic theories look at migration as an outcome of decisions of single subjects – individuals or households. Theories taking a higher aggregation level view, including macroeconomic theories, link migration to forces at work on a national or the world economy level. They do not rule out that there are some microeconomic mechanisms which facilitate migration flows, but they put more emphasis on interdependencies between individual migration decisions.

### 2.1 Microeconomic Theories of Migration

Microeconomic theories are shortly summarized in Table 2. The table, same as Tables 3 and 4, contains also a brief comparison of explicit or silent assumptions about utility functions and functioning of markets, underlying the theories.

The neoclassical theory of migration originates in works of Sjaastad (1962) and Todaro (1969). The authors indicate at the expected income gain as the main driver of international migration. An individual decides to emigrate when the expected stream of income to be earned abroad net of migration costs (monetary and non pecuniary) is higher than the expected discounted value of income at home. The expected income gain depends on a worker's education or experience, returns to skills at host and home labour markets, costs of living and the probability of finding employment in different locations. The theory assumes that all markets clear. However, heterogeneity of workers, different returns to their skills and differences between individual migration costs may lead to the existence of the equilibrium wage differential between locations. Consequently also the absence of the average wage level differentials between two economies does not exclude migration flows.

This approach to describe migration movements is often referred to as a human capital theory. The name reflects that within the framework, workers consider migration when they expect either to reap higher returns on their existing skills in a foreign country or on skills to be acquired abroad in a home country (e.g. via occupational upgrading), after a return. Approval of the relevance of migrants' selection is reflected in a rich body of empirical studies on the subject. Starting with works of Borjas (1985) and Chiswick (1986) who look at an impact of compositional effects (changes in a distribution of skills of immigrants) on evolution of the average earnings of immigrants in the U.S. Borjas (1987) develops a fully-fledged model of the selectivity of migrants (applicable on macroeconomic level) where higher dispersion of wages in a host country (as compared to source regions) favours immigration of highly skilled and motivated workers. The reverse holds true when wage dispersion in a host country is trimmed either by labour market institutions or fiscal policy measures.

Table 2: Microeconomic theories of international migration

<i>Level of analysis</i>	<i>Motive</i>	<i>Destination choice</i>	<i>Markets</i>	<i>Utility</i>
Neoclassical migration theory				
Individual	Maximization of the expected discounted income	Destination with the highest expected discounted net returns. If workers are heterogeneous, different selectivity patterns to different directions appear (e.g. for skilled and unskilled).	Cost of migration between labour markets (monetary and non pecuniary); all markets clear.	Standard.
New economics of migration				
Household	Minimization of risk	Destination where labour market conditions are negatively or weakly correlated with labour market situation at home.	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		Incomplete capital markets.	Standard.
	Minimization of the relative deprivation			Importance of the relative consumption/income.

Source: Based on Massey et al. (1993) with own additions.

The New Economics of Migration (NEM), set on by Stark and Bloom (1985), acknowledges the incompleteness of insurance and capital markets and views migration as a measure to overcome it. The NEM underlines the importance of joint decision making within a family and treats household, not individuals, as a basic unit of an analysis. Migration might be e.g. aimed at differentiating sources of a family's income and not at maximization of a migrants' own earnings, if a household cannot insure against its income volatility otherwise.

Second, the NEM indicates at the relative deprivation as the next plausible migration trigger. If a utility function of an individual (household) incorporates not only absolute

but also relative income, migration may be encouraged by income inequality in a source country. In the setting, foreign earnings allow an emigrant to increase her prestige at home. The NEM does not deny that expected income differentials play a significant role in driving migration movements. It only argues that other factors, like market failures, altruistic or cultural linkages between family members or a relative deprivation, might be of similar importance.

## 2.2 Theories of Migration Working on Higher Aggregation Level

A short overview of theories assessing migration on the level of economies or nations is offered in Table 3. The neoclassical macrotheories descend from the research on the sources of economic development. Harris and Todaro (1970) explicate a theory of rural-urban migration as a process leading to equilibration of regional labour markets. The same mechanism can be successfully used to assess dynamics of international migration. In labour abundant countries wages are low but they are high in labour scarce markets. This sets incentives for workers to move to from regions with a labour supply glut to countries with deficient labour. Migration balances labour demand and supply in source and host countries so that the international wage differential reflects only the cost of international movements.

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 segmentation of host countries' labour markets. In developed economies, the primary sector offers stable employment, high wages and social prestige. Even though, access to these jobs may be rationed e.g. by high educational requirements or longer apprenticeship periods, nationals strictly prefer employment in primary than in secondary sector.

At the same time, a range of institutional „rigidities” prevents employers from attract native workers to secondary sector jobs or makes their attempts just inefficient. An increase in secondary sector wages can disrupt hierarchy of social prestige, and therefore it sets on a process of wage adjustments in an economy. Wage adjustments occasionally lead to restoration of initial relative wages. Wage signals can also have very limited impact on motivation of native workers who attach high value to the social prestige of a job.

Migrants, in turn, may have different reference groups than nationals who could be employed at similar jobs. Earnings in secondary sector may allow migrants to increase their status in a home country – which may be their primary concern. Hence to fill bottlenecks in the secondary sector profit-maximizing firms would turn to foreigners who are willing to take jobs with lower prestige, income and lower security. As such, migration is a purely demand driven phenomenon tied to a limited supply of native workers in the secondary sector.

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

Level of analysis	Driver	Markets	Mechanism	Direction of flows	Implicit micro drivers	Push/pull <sup>6</sup>
Regional	Disequilibrium on local labour markets	Cost of migration between labour markets (monetary and non pecuniary); all markets clear.	Neoclassical theory 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
National	Economic development of recipient regions	Segmented labour markets (separation of primary and secondary sector via institutions and/or high investments in human capital required in capital-intensive sector)	Dual labour market theory Migrants fill bottlenecks in the secondary sector that arise due to low wages there. Wages in the secondary sector are kept down by norms or technological constraints.  Problems to motivate native workers. Limited supply of native workers willing to take secondary sector positions due to demographic transition.  World systems theory	To developed countries.	Reduction of labour costs by employers. Income maximization by migrants. Status concerns of natives.	Pull  Pull Pull
International	Globalization	International goods markets.  Transformation to segmented production process, increased specialization  Decrease in cost of transport/movement on goods, capital and labour markets.  Evolution of social norms.	To compete on global markets farmers consolidate land and introduce new production methods. Thus reducing demand for labour in agriculture and contributing to creation of mobile labour force.  Reorganization of production so that it bases on paid labour and is concentrated in global cities pursues workers to leave traditional communities.  Development of communication and transport networks in peripheral regions, initiated by foreign investors, reduces cost of labour movements.  Impact of global culture and foreign companies on regional populations in remote areas makes them more mobile and motivated to move. These impacts include influence on skills, expectations of workers, introducing new work patterns (feminization), education and institutions.	To developed countries from developing countries penetrated by globalization.	Minimization of costs by producers.  Minimization of costs by producers  Reduction of monetary costs of migration.  Reduction of social costs of migration (when social norms matter).	Push  Push/pull Push Push

Source: Based on Massey et al. (1993) with own additions.

<sup>6</sup>Distinction between push (tied to an unfavourable situation in a home country) and pull (related to an advantageous situation in a host country) factors, presented in the last column of the table, was introduced proposed by Lee (1966). Here, it signals whether a main emphasis of a particular theory is put on source or host markets developments.

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 reduction of communication and transport costs and the development of a global culture – they all disturb traditional social norms, technologies, and create labour oversupply in developing countries. Simultaneously these processes facilitate entry of citizens of peripheral areas into labour markets of developed countries. The abundance of labour and the reduction of migration costs jointly trigger outflows of labour from catching-up regions.

### 2.3 Perpetuation of Migration

Theories of perpetuation of migration, set together in Table 4, put emphasis on interactions between current and potential migrants. The network and institutional theories refer to the existence of networks (Taylor, 1986) or institutions which support migration via acceleration of information flows and, indirectly, reduction of migration costs. The theory of cumulative causation concentrates in turn on evolution of socio-economic environment in source economies (Massey, 1990). Changes in the distribution of wealth triggered by inflow of remittances to home countries, labour-saving innovations introduced by emigrants in agriculture or positive social value attached to mobility encourage new workers to move abroad.

Table 4: Theories of perpetuation of international migration

<i>Channel</i>	<i>Mechanism</i>	<i>Markets</i>	<i>Implicit micro driver</i>	<i>Push/pull</i>
Network theory				
Networks	Networks constitute a form of social capital that people can draw upon to gain access to foreign employment.	Incomplete information about foreign labour markets.	Declining cost and risks of migration.	Pull
Institutional theory				
Institutions (private and voluntary organizations promoting immigration)	Migration triggers establishment of institutions that provide services (underground or humanitarian) for other workers willing to enter a market. These constitute a form of social capital for new entrants.	Legal or informational barriers between labour markets.	Profit driven activity of organizations. Declining cost and risks of migration.	Pull
Cumulative causation				
Social norms: culture	Emigrants alter social norms/attitudes toward migration in a source community.	Costs of movement.	Declining non pecuniary costs of migration.	Push
Social norms: jobs	Concentration of immigrants in a sector stigmatizes it as an immigrant sector.	Importance of job status for natives.	Increase in demand for immigrants.	Pull

Wealth	Remittances sent by emigrants impact wealth distribution in a 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 a 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.	Push

Source: Based on Massey et al. (1993) with own additions.

### 3 Migration in International Trade Models

International trade theories attempt to answer a question why there is a trade between countries. They are not designed to address a subjects related to labour migration, but still they place labour mobility into a general equilibrium framework, and facilitate understanding of general macroeconomic and labour market outcomes following migratory waves.

Neoclassical international trade theories assesses labour migration as a phenomenon similar to mobility of any other factor of production. In line with the neoclassical view, preferences of migrants and natives do not significantly differ and individuals, if anything, are silently assumed to relocate permanently. The only effect of migration is shifting of labour supplies in source and host markets.

The neoclassical trade theory is grounded on works of David Ricardo (1821), who argues that countries can benefit from international trade when there are differences in production technology between them. Technologies describe efficiency of production in terms of required factor inputs to manufacture a single good. A comparative advantage in production of a good appears in a country, when the good can be produced at a lower cost than other goods in this economy, as compared to any other country. Countries will export goods where they have the comparative advantage in production and import goods they produce less efficiently. The Ricardian theory is silent on the sources of comparative advantage – countries' technologies are assumed to given and fixed.

The Ricardo's concept is based on a principle that all factors of production, including labour, are internationally immobile. In the simplest framework, where unit costs of production are constant, relocation of labour, even if it would be exogenously imposed, would not affect relative prices or trade patterns. However, the Ricardian theory sets on a range of assumptions which carry over to neoclassical models with possibility of factors migration, such as competitive clearing-up markets and low (zero) transport costs. Thus, the Ricardian trade theories start a list of theories relevant for migration studies in Table 5.

Two international trade models extensively used to assess consequences of migration are the „basic” model built along the lines proposed by Ramaswami (1968) and the Heckscher-Ohlin model. As compared to Ricardo and Ricardo-Viener models they link countries' comparative advantages not to exogenous technology differences but to factor endowments. Similarly to classical models, they assume absence of any transport costs and instantaneous clearing of factor markets (including labour markets). In both models firms constantly make the best possible use of available resources, so inflow or outflow of labour induces changes in production (its size and/or product mix). Free movement of production factors and goods raises the world income. In fact, within these frameworks, migration substitutes for free movement of capital and goods<sup>7</sup>. The gains from mobility of production factors or international trade are shared between natives of all involved countries.

<sup>7</sup>In the Heckscher-Ohlin framework a substitution result was first derived by Mundell (1957).



Table 5: Migration in international trade models

	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 two sectors but internationally immobile.	A country exports a good it has a comparative advantage in producing.	Absent.		
Ricardo-Viner model	2 goods (sectors)	Technology differences between countries. Labour is mobile across two sectors but internationally immobile. Immobile, sector specific factor of production.	A country exports a good it has a comparative advantage in producing. Decreasing returns to labour in sectors limit scope for specialization.	Absent.		Dynamic version where sector specific factors are mobile converges to Heckscher-Ohlin model.
Ramaswami model	1 tradable good	Exogenous factor supplies. Labour internationally mobile. Same technology available across countries.	A country exports a good it has a comparative advantage in producing. Comparative advantage is dependent on factor endowments.	Driven by supply-demand differences between regions (until the wage equalization holds).	If production prices are constant (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	Exogenous factor supplies. Labour internationally mobile. Same technology available across countries.	A country exports a good it has a comparative advantage in producing. Comparative advantage is dependent on factor endowments.	Driven by supply-demand differences between regions (until the wage equalization holds).	Rybczynski theorem: if production prices are constant (small open economy) an increase in labour supply gives a raise to more than proportional increase in output of labour intense good (and reduction of supply of other good). No effects on wages follow.	
Monopolistic competition models	Variety of goods	Production factors, including labour, internationally mobile. Increasing returns to scale (i.e. due presence of fixed costs).	Self-facilitating process of agglomeration of production factors. The process leads to establishing 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 intra-industry trade.
Taste for variety and ideal products models	Variety of goods	Presence of informational frictions between markets.	International trade involves interactions between buyers and sellers. There arise only when sufficient information about an offer of the other party is available.	Not explained.	Facilitates trade exchange between countries.	

The two models differ in their assumptions about the production structure. In the Ramaswami model there is only one type of tradable good, whereas in the Heckscher-Ohlin model, a variety of export goods. The diverse assumptions about number of produced goods imply slightly different effects of cross-border labour relocation. In the Ramaswami approach increased abundance of labour on a local market reduces wages of workers competing for jobs with immigrants. In the Heckscher-Ohlin model higher labour supply in the first place induces a shift in the production structure in the direction of producing more of labour intensive goods (Rybczynski theorem). The negative impact on wages of natives takes place only when the magnitude of an increase in the world supply of labour intensive good is sufficiently large to reduce its world price (Stolper-Samuelson theorem). Hence, the correction of wages in the aftermath of a migration wave is absent or at least moderated in the Heckscher-Ohlin model.

The Heckscher-Ohlin model provides an elegant answer to the empirical wage-migration puzzle, namely resistance of wages to an increase in labour supply tied to immigration. For this reason it is believed to have a strong empirical advantage over the „basic” model (Gaston and Nelson, 2000). However the restraint response of wages to immigration in the Heckscher-Ohlin model is tied to assumed holding of the factor price equalization.

The substitutability outcomes, between labour migration, trade, and capital movements (similarly as the related welfare implications), break down in the Heckscher-Ohlin model in the presence of fixed production factors (see Kuhn and Wooton, 1987, for relation between migration and capital, and Venables, 1997, for relation between migration and trade). Hence, predictions of the model can be misleading if there are persistent differences in technology, business environment or infrastructure between regions. Similar conclusion can be reached when there are diverse labour market institutions in receiving and sending countries (Saavadra-Rivano and Wooton, 1983). Next, the postulated relation between trade, capital and labour mobility does not apply when workers are financially constraint. In this case trade or capital liberalization leading to an increase of the average income of workers (and an improvement of the average education level) contributes to an increase in the pool of potential emigrants (Lopez and Shiff, 1998).

Further, the substitutability between capital, trade and migration evaporates in the presence of increasing returns to scale. This point is made by the New Economic Geography (Krugman, 1979). Decreasing average costs of production can lead to a situation when wages (and returns to emigration to the destination) are highest in places which offer also significant returns to capital. Economics of agglomerations can explain why migration inflows induce inflow of capital or the reverse. Reduction of the average costs of production resulting from clustering of capital and labour can facilitate (not dampen) trade exchange with other regions<sup>8</sup>.

The complementarity between trade and migration is also consistent with the search theory of trade. Rauch (1996) describes international exchange as taking place on markets

<sup>8</sup>The New Economic Geography framework extended for expectation effects or labour market frictions were successfully used by Brezis and Krugman (1993) and Epifani and Gancia (2005), respectively, to study migration movements and their effect of host and sending economies.

with imperfect information where buyers and sellers trade in heterogeneous products. In a setting with informational frictions, migrants may possess a valuable advantage in a form of a better knowledge about goods traded on host- and source markets. Provided that consumers and traders are driven by the ideal product or love-for-variety motive, migration facilitates trade exchange between source and host economies (in both directions). Still, the theory does not attempt to answer why there is migration between markets, but focuses solely on its impact on the trade exchange.

The arguments undermining applicability of neoclassical trade models to explain factual developments, and in particular adjustment of economies to migratory waves, are every now and then supported by empirical evidence. Leontief (1953) documents that even though the U.S. economy was relatively capital abundant in the late 40s, it exported primary labour intensive goods. He attributes that outcome to what would be later labelled institutional environment or human capital endowment of labour force, suggesting a failure of a simple two factors model to explain trade patterns<sup>9</sup>. Olson (1996) provides evidence against substitutability of trade, migration and capital integration in the presence of different labour market arrangements between countries. A significant degree of complementarity between trade and labour flows is supported by even richer set of studies. Head and Ries (1998), Dunlevy and Hutchinson (1999) show that immigration tends to lead to increases in the intensity of trade exchange and especially in imports to a host country. Gould (1994) indicates that the complementarity relation between trade and migration seems to be particularly strong for consumer goods<sup>10</sup>. Shiff (1996) reviews empirical literature supporting importance of financial constraints for explaining of dynamics of migration.

Criticism of the substitutability result appears also in literature focusing on social aspects of higher immigration intensity. Card et al. (2009) focus on empirical relevance of compositional amenities, namely subjective values ascribed by natives to maintaining shared religious beliefs, language, and customs, and their potential to shape public opinion about immigration. Natives' fears about the impact of migration on social integrity may, in turn, influence immigration policy and efficiency of use of the additional labour force e.g. via discriminatory practices at a workplace. When integration of capital markets or foreign trade are more broadly accepted in a society, the realized gains from these two dimensions of integration may be significantly higher than from encouraging an inflow of foreign labour force.

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<sup>9</sup>Leontief (1953) attempts to test Ricardian model. His logic of application the original Ricardo's model to study relative advantages goes exactly along the lines suggested by Heckscher and Ohlin (looking for the sources of technological advantages in factor endowments).

<sup>10</sup>Other works documenting positive relation between migration and trade include Helliwell (1999), Rauch and Trindade (2002), Blanes (2005), White (2007) and Foad (2009).

## 4 Return Migration

The two previous sections deal mainly with mechanisms that promote and reinforce migration between regions. This section evaluates theories that strive to identify determinants of durations of stay abroad, once the decision to emigrate was taken. These theories address the issue of permanency or temporariness of migration experience. Conceptually, returns are by no way a phenomenon which can be separated from initiation of migration. The literature exploring why returns occur, appeared generally later than first discussions on reasons of initiation or perpetuation of migration, creating its own vocabulary, puzzles and methods of empirical investigation.

Table 6: Motives for return migration

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

Table 6 orders motives of return migration by theories that nest them. A return to a home country can be assessed as an event within a (finite) life-cycle of a utility maximizing individual. The microeconomic life-cycle perspective suggests that individuals choose their length of stay abroad so that their marginal benefit from higher accumulated savings equates marginal cost of working abroad. More detailed discussion concerns motives underlying returns, namely factors that affect marginal benefits and costs of staying abroad.

The basic motive for returning, initially raised by Berg (1961), Hill (1987), Djajic and Milbourne (1988), is a preference for home country location. It starts with an assump-

tion that workers strongly prefer to remain in their community of origin, but resort to temporary migration because of limited income opportunities. Dustmann (1996, 2003) adds two further motives: differences in purchasing power of immigrants' earnings in a host- and home country, and higher returns to human capital acquired abroad in a source country. Lindstrom (1996) and Mesnard (2004) point at incentives related to home country capital market imperfections. If there is limited access to credit or the local currency is highly instable, workers can migrate to save enough to overcome the minimum investment threshold. In line with this view, migrants return when they accumulated sufficient capital to start entrepreneurial activity.

The life-cycle theory is sometimes distinguished from the target income theory. Both approaches have a lot in common, however the target income approach puts greater emphasis on a target savings level than equating of marginal gains and cost of migration. The target income theory embark on home bias in migrants preferences. Thus, optimally migrants would prefer to spend as little time as possible away from home. The target income approach posits that migrants return when they accumulate enough savings to reach particular, assumed in advance, level of lifetime income. Similarly to the life-cycle view the target income perspective suggests that the length of time a migrant spends in a destination country increases with higher migration costs and higher wages at the origin. Conditioning return on the accumulation of a fixed savings level implies as well that duration of stay abroad decreases with wages at the origin. The conclusion that may but not necessarily has to follow, when workers compare their marginal benefits and costs of staying in a foreign country before a return.

An alternative explanation of return migration is the correction of an earlier migration decision, for example when a worker based emigration decision on erroneous information. This intuitive explanation of returns is provided by Yezer and Thurston (1976), Allen (1979) and Borjas and Bratsberg (1996). Information asymmetries are used to explain return migration also in richer settings. Stark (1995) and Katz and Stark (1989) develop the model where return migration occurs because employers learn about individual productivity of individuals. Once symmetrical information is reinstated, the wage rate of an immigrant is adjusted. The possible wage reduction may encourage a worker to return. Importantly, the correction motive may contribute to an accentuation of a type of self-selection characterizing immigrant population.

Consistently with both the life-cycle theory and correction hypothesis, re-migration typically occurs soon after immigration. Moreover, labour market outcomes are important determinants of return migration. Bellemare (2003, 2004), Constant and Massey (2003) report negative selection in terms of employment outcomes in return migration from Germany.

The life-cycle perspective is supported by empirical evidence on the importance of migration costs as determinants of the probability of return. Costs of entry into a foreign market for undocumented immigrants are higher than for legal immigrants. Therefore the former should have stronger incentives to stay longer in a host country in order to accumulate more savings net of costs of entry. Reichert and Massey (1979) show that

undocumented migrants from Guadalupe were likely to stay in the U.S. for on average three months longer than legal migrants. Along similar lines Reyes (2004) shows that changes in the U.S. immigration policy had significant impact on the average duration of a trip of Mexican workers. The legalization of stay of part of actual immigrants shortened the average duration of a trip of a Mexican worker. The construction of the wall at the U.S.-Mexican border, in turn, lengthened it. Borjas and Bratsberg (1996) document significant negative impact of a distance between the U.S. and a country of origin on the probability of outmigration of a worker. Finally, using micro data for Germany, Dustmann (2003) finds some support for the claim that migration duration might decrease if wage differentials grow larger and a shorter stay is sufficient to cover migration costs.

Location preferences and/or price level differences between source and host economies are reflected in a high share of return migrants who withdraw from the labour force. Higher probability of non-employment of return migrants (from stayers) is confirmed for Mexican emigrants to the U.S. (Aleman-Castilla, 2007) and Albanian emigrants (Piracha and Vadean, 2009). The alternative approach is to focus on return migration of the elderly for whom cost of living and quality of life (local consumption preferences) are likely to dominate wage differences considerations. Klinthall (2006) shows that the moment of entering (official) retirement age by immigrants in Sweden defines the peak of the distribution of return probabilities by age (for workers between 51 and 80). Analyzing data for immigrants to Australia Cobb-Clark and Stillman (2008) document that age-retirement patterns of immigrants are consistent with their high emigration propensity at the moment of reaching retirement age.

In accordance with the life-cycle hypothesis, the earlier a migrant enters a foreign labour market and the longer she stays, the higher should be her accumulation of host country specific experience and education and higher alternative costs of a return (Borjas and Bratsberg, 1996, Massey and Espinoza, 1997). Return propensities of migrants increase with the age at entry, but indeed decrease with the number of years of residence. A migrant's length of residence in a country reduces the likelihood that she will occasionally return to her home country as shown by Nekby (2006) for immigrants in Sweden, Bratsberg et al. (2007) in Norway and Jensen and Pedersen (2007) in Denmark. The social context matters as well. The return migration usually occurs when a migrant does not have a family in the host country.

The role of returns to a foreign job experience is researched by Barrett and O'Connell (2001). They estimate that Irish (male) return migrants earned around 10% more than stayers, and the difference was by further 5 ppt. higher for those returnees who had emigrated for job reasons. Iara (2006) and Martin and Radu (2008) find some evidence of positive returns to a foreign work experience in the Central and Eastern European countries that entered the European Union in 2004. The latter work contains as well a brief literature overview of earlier results on the wage premium of return migrants in countries from the region.

The other strand of empirical literature verifies the importance of financial frictions in source economies and migration as a strategy to overcome them. Lindstrom (1996)

documents positive relationship between duration of stay of Mexican migrants in the U.S. and investment opportunities in an origin area. He interprets the outcomes as supporting for a hypothesis that migrants stay longer to save more when the accumulated capital can later be put to more productive use. Massey and Espinoza (1997) show that migrants from more developed regions (regions with higher wages and share of working women) tend to stay abroad for longer. Yang (2006) notices that a home currency depreciation is likely to lead to earlier returns of middle income immigrants from Philippines and to their higher investments in both productive and housing capital.

A number of studies focus on the propensity of former emigrants to become self-employed. High propensity of return migrants to set up their own business might deliver indirect support for the importance of migration decisions targeted at overcoming home country capital market imperfections. 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 that a returnee starts running a business even increases after some time she spent at home (at the cost of decreasing propensity to remain out of the labour force). Ilahi (1999) studies post-migration choices of return migrants to Pakistan. He shows that return migrants who choose self-employment after their return, had saved more than their peers when having been abroad. Ex post, accumulated savings made self-employment a more beneficial option for them than choice of paid employment or a withdrawal from a labour force. McCormick and Wahba (2001) and Wahba (2004) document similar patterns among Egyptian and Mesnard (2004) among Tunisian returnees. Dustmann and Kirchkamp (2002) indicate that a half of the Turkish immigrants to Germany who returned in 1984 became active as entrepreneurs after their return. Capital for starting off business stemmed from savings and capital acquired abroad. Moreover, consistently with an attempt to start up the business at home, higher earnings in the host country reduced migration duration of later entrepreneurs.

Important to notice, choice of self-employment might also reflect positive effects of human capital accumulation by immigrants. Role of migration experience in the acquisition of business skills and ideas was emphasized by McCormick and Wahba (2001), Dustmann and Kirchner (2002) and Piracha and Vadean (2009). In line with this argument, Coulon and Piracha (2005) indicate that returns to foreign experience in Albania are the highest in self-employment and managerial positions.

Finally, and corresponding with the correction hypothesis, tracing down Finnish individuals who migrated to Sweden, Rooth and Saarela (2007) confirm that returns may indeed strengthen selection mechanisms. While Finns moving to Sweden were negatively selected from the source country population, the relatively best skilled come back most frequently.

## 5 Remittances

Remittances, here, are understood as all income transfers from migrants to their home country, be they transfers to family members or repatriated savings. Interpersonal transfers and repatriated savings are important element of the NEM and macro-grounded theories of initiation and perpetuation of migration. Moreover, the NEM theory links motives for remitting with return intentions (planned duration of stay). Therefore, conclusive tests on importance of particular motives underlying sending remittances serve also a purpose of validation of different migration theories and incentives to return to a home country. Summary of motives described in the section is contained in Table 7.

In neoclassical macro models of migration remittances do not play any special role. Remitting is closely tied to consumption smoothing and savings management. Migrants remit income when expected return to home country investments in financial or real assets is higher than returns to alternative investments in other countries. As such, remitting can be also tied to portfolio risk differentiation. Not far from the neoclassical arguments, remittances may also represent payments for services (Cox, 1987) including taking care of assets or family members in a source country. As such they are an element of trade exchange between countries.

The NEM, focusing on a family instead of individuals, introduces a broader set of motives to remit. These motives, ranging from self-interest to pure altruism, are tightly coupled with forces driving migration itself. A self-interested individual who at some point of life considers return may remit to demonstrate laudable behaviour and signal prestige. If capital markets are incomplete, an individual can enter an implicit family contract to finance migration or education. Such a contract combines elements of investment (in migrant's education, cost of migration) and repayment. Unless risks between sending and foreign countries are perfectly correlated, a similar contract may co-insure family members being abroad and staying at home. To be a viable explanation of remittances, the family contracts have to be self-enforcing. Contracts enforcement may base on social norms like reputation and ostracism or some degree of altruism. Finally, if an emigrant aspires to inherit from her family members who stayed in a home country, stayers may use their wealth to enforce desired behaviour of leavers. An altruistic migrant, in turn, shares her income with stayers (Stark, 1999) simply because she cares about the welfare of her family.

The other motive underlying sending of remittances proposed by Stark (1995) relies on the desire of actual emigrants to dampen inflow of low skilled natives from their country of origin to their country of actual residence. If host country employers statistically discriminate between nativities of different countries, an inflow of low-skilled individuals might hamper employment chances or lower wages of earlier leavers from the region. To forestall these developments earlier emigrants share their income with stayers. They attempt to control via remittances a further outflows of workers from their home country and indirectly influence the average productivity of peer natives at a host labour market.



Table 7: Motives for sending remittances

Motive	Mechanism	Utility	Markets	Other	Type of migration
Higher or safer return on savings		Standard.	Portfolio considerations		
Taking care of assets	Payment for services provided at home.	Standard.	Exchange motive		
Taking care of relatives	Payment for services provided at home.	Standard.	Elements of imperfect information: family ties reduce informational or monitoring costs for an emigrant.		
Acquiring or enhancing prestige		Importance of relative consumption/income.	Self-interest		Temporary.
Inheritance		Standard.			
	Migrant sends remittances home because she cares about welfare of her family.	Altruistic.	Altruism		Permanent.
Loan agreement	Remittances serve as repayment for earlier involvement of a family into covering investments into an emigrant's human capital, migration cost and for possible initial in a destination country.	Standard (with some degree of altruism).	Tempered altruism/enlightened interest		
Insurance arrangement	Migrant remittances insure for an unanticipated household income shortfall.	Risk-averseness (with some degree of altruism).	Imperfect capital markets in a home country.	Agreements have to be self-enforcing. Enforcement may rely on sufficient degree of altruism within a family, social norms, inheritance.	
	Emigrants attempt to keep low-productivity natives at home, so that the average productivity of immigrants from a destination stays high.	Standard.	Strategic behaviour	Imperfect information about foreign workers' skills. Statistical discrimination of immigrants in a host labour market.	

An overview of the empirical literature on economic determinants of remittances is offered by Rapoport and Docquier (2006) or Hagen-Zanker and Siegel (2007). When not mentioned otherwise, I refer to conclusions from works included in these reviews. Additionally, I augment them with references to some other (mostly newer or conducted in a general equilibrium setting) studies.

Consistently with the most of motives for sending remittances mentioned in the literature, high economic activity in a host country and a good labour market situation of an immigrant, are usually found to increase an amount of remittances sent to her source country. Good investment climate, stable political and economic situation (reflected *inter alia* in the stability of a local currency) in a home region are also often positively correlated with inflow of remittances (Aydas et al., 2005, Catrinescu et al., 2009). However, the importance of other portfolio variables including the interest rate differential and relative returns on real assets, is less supported by the data (Straubhaar, 1986, Schiopu and Siegfried, 2006). In fact, lower volatility of remittances inflows as compared to other capital flows, FDI or foreign aid, speak against prevalence of investment motives (Solimano, 2003, Salomone, 2006, Kukulenz and Buch, 2004).

Lucas and Stark (1985) gather evidence supporting relevance of the self-interest as a motive underlying sending of remittances. They document that sons in Botswana remitted more when their families were wealthier. Similar correlation is not present for emigrant daughters who due to social reasons were less probable than to inherit. Hence, they interpret the evidence as supporting for an inheritance motive. The inheritance motive proved to be helpful in explaining dynamics of remittances to Western Kenya, Dominican and Kosova (the last by Havolli, 2009). Elements of self-interest can also explain the strong positive empirical relationship between the probability of remitting and the amount of remitted income, and immigrants intention to return home.

The pure altruism hypothesis is usually rejected by the data. However, a certain degree of altruism helps to explain observed dynamics of immigrants' income transfers. On a macro level, remittances are frequently found to be negatively correlated with the source country business cycle (Bouhga-Hagbe, 2004, 2006). It indirectly indicate at the presence of either altruistic or insurance motives. However, Sayan (2006), Durdu and Sayan (2010) provide some evidence that the negative relationship between cyclical GDP fluctuations and inflow of remittances does not always hold. Micro evidence on the relationship between households' income and the amount of remittances received are also mixed. A negative relationship between the total number of migrants within the household and the amount of remittances send by each of them, implied by the altruistic motive, cannot usually be rejected. On the other hand, a difficult economic situation of family members or a high dependency ratio are found to be positively related to the amount of remittances received by stayers only in some studies. Other authors find a positive relationship between recipients' income and an amount of remittances received, which would speak rather for the self-interest motives.

Data frequently hold up with the family contracts hypothesis. The loan motive is supported by evidence on a positive link between financial help received by an emigrant

from her family and an amount of remittances sent back home by her later. Empirical importance of risk aversion for initiating migration and fluctuations in inflows of remittances in response to income shocks to household in a source country, are in turn consistent with insurance motives.

Monetary transfers distort a picture of emigration as affecting a source region predominantly via labour supply channel. The following concerns apply: first, recipients of remittances may reduce their work effort. Higher non-employment income and limited emigrants' monitoring possibilities give rise to a moral hazard problem on the side of stayers. Remittances can allow non-migrant family members to extend duration of their job search, limit their labour market activity or to get more involved in a household production e.g. raising children. Kozel and Alderman (1990) provide some evidence on importance of these channels for Pakistani and Cabegin (2006) for Filipino workers.

Second, in an environment with liquidity constraints remittances can be used for investment purposes - both in physical and human capital. Taylor (1992) regresses a household income on remittances controlling for an asset ownership and arrives at an estimate of an income-remittances elasticity of 1.85. He interprets the high estimate of elasticity as indication that a significant portion of transferred resources is spend not on consumption goods but on income-generating assets. Giuliano and Ruiz-Arranz (2009) analyze macro level relation between remittances and investments for a broad sample of developing countries, and conclude that remittances can substitute for a presence of financial intermediaries. The more developed is the financial sector, the lesser is the positive impact of inflow of remittances on investment activity, and consequently growth, in a country. Along similar lines, Schrooten (2005) notices that those transition countries with poorly functioning banking sector register the highest inflow of remittances. Thereby remittances facilitate a catching-up process. Hanson and Woodruff (2003) find that children in Mexican households with emigrants complete more years of schooling. Bredl (2010) arrives at similar conclusions analysing data on Haitian households. Woodruff and Zenteno (2001) show that remittances are an important source for investments (financing 20% of investments in urban areas) in micro-enterprises in Mexico.

Remittances may as well shift an economy out of equilibrium, when higher purchasing power of emigrants' families is not met by a proportional increase in a supply of goods. El-Sakka and McNaab (1999) argue that remittances could have shifted the Egyptian economy out of equilibrium between 1967-1991 as they were used predominantly to finance imports in line with very high income elasticity of imports. A great share of the literature on macroeconomic consequences of remittances focuses however on their stabilizing effects. As due to their relative robustness to degeneration of the investment climate, they are expected to cushion the business cycle fluctuations or protect an economy from an outflow of investors' capital in case of a crisis (Bugamelli and Paterno, 2009).

## 6 Temporary migration

The key advantage of the microeconomic description of migration is its ability to nest initiation of migration with motives for return migration and sending remittances. Neo-classical theory is complex enough to explain both a permanent migration and a migration eventually ended by a return to a home country. For instance, if skills acquired abroad are expected to yield higher employment chances or income back at home, a worker may decide at the outset to emigrate first and return later. The approach can also comprehend non-economic, social costs of migration (e.g. via introduction of a home bias in the utility function). With this extension, the theory is able to answer its main criticism (moderate magnitude of migration flows in the world of high income disparities) and incorporate an additional motive of return.

Motives underlying migration, according to the NEM, seem to facilitate predominantly temporary labour movements. Explanations of migration referring to relative deprivation assume that workers care about their status at home. This makes workers more benevolent to remain at the bottom of income or prestige hierarchy in a foreign country. Their motivation assumes a return once their wealth is sufficient to get higher status at home. Migration driven by a limited access to capital also should terminate as soon as a worker accumulates enough savings to set off a business in a home country. Along with the co-insurance motive of migration, return is likely to appear when disutility tied to the presence of a household member abroad is not compensated with a reduction of riskiness of a household's income.

Remittances in the NEM setting are tied either directly to willingness of a migrant to return home (when money are send home to acquire a higher prestige or in a home of getting inheritance) or to existence of interpersonal linkages between family members. Even in the latter case, concern about relatives or situation at home may be thought to correspond better with temporary than permanent character of migration.

Theories that perceive migration as a macroeconomic issue seem to lack the comprehensiveness of microeconomic approaches. They usually fail to explicitly tackle reasons and consequences of return migration. Only the segmented labour market theory pins down some elements of temporary migration.

Existing micro-level migration theories can accommodate attempted temporariness of stays abroad and less so theories working on higher level of aggregation. Even the latter would be only a minor problem, at least on a macro level, as long as temporary and permanent migrants would behave sufficiently similarly.

A few proposals were raised in the literature why temporary migrants may be indeed different from permanent migrants. They can:

- exhibit different savings behaviour<sup>11</sup> (Galor and Stark, 1990, Dustmann, 1997a),

<sup>11</sup>It should be however stated that differences in savings behaviour between temporary migrants, permanent migrants and natives may be linked not only directly to their different migration plans but also

- exhibit different remitting behaviour (Glystos, 1988, Sinning, 2007)
- behave differently on host labour markets (Galor and Stark, 1991, Dustmann, 1997b),
- pursue different strategies in terms of investment in their human capital (Dustmann, 1993, 1999)

Intuitively, a return intention ties behaviour of migrant stronger to developments in a home country. Galor and Stark (1990) argue that the intention to return to a country of origin (where wages are lower) incentivizes temporary migrants to save more than permanent migrants, in order to smooth their consumption over the life-cycle. Dustmann (1997a) extends the argument and shows that savings of temporary migrants depend not only on wage differentials between countries but also on risks in host- and home- country labour markets (and correlation of labour market shocks). When labour market shocks are uncorrelated temporary migrants may in fact save less than natives or permanent migrants. It is so, because in case of situation on a host labour market turning bad, temporary immigrants can simply terminate they stay.

Some differences in behaviour of two types of migrants are validated empirically. Bauer and Sinning (2005, 2009) document that temporary immigrants in Western Germany have a significantly higher savings propensity than permanent migrants<sup>12</sup>. Above that remittances represent a substantial part of savings of temporary migrants, while they seem to have only a minor share in savings of permanent migrants. Temporary migrants display higher propensity to save than permanent migrants (or natives), once remittances are accounted for in their savings rate. Piracha and Zhu (2007) (who use the same German Socio Economic Panel, GSOEP) do not distinguish between temporary and permanent migrants. However, their results indicate that the reform in Germany targeted at easing the naturalization of immigrants in 2000 significantly reduced the level of precautionary savings. To the degree to which the reform encouraged previous temporary migrants to settle-down, the documented reduction of savings rate may be tied to lowering of the share of immigrants intending to eventually leave the host country.

Dustmann and Mestres (2010) show (again on the basis of the GSOEP data) that immigrants with return plans place a higher proportion of their savings in a home country. Also the absolute value of financial and housing assets in a home country of immigrants who consider their stay as temporary is larger than that of other foreign born workers. Temporary migrants also hold less assets in a host country than permanent immigrants. The authors do not confirm results of Bauer and Sinning (2007, 2009) on differences in saving propensity between temporary and permanent migrants.

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to their different cultural or economic background as well as to their limited access to social welfare programs (Bauer and Sinning, 2005).

<sup>12</sup>Earlier, but significantly less conclusive evidence on savings of guestworkers in Germany was provided by Merkle and Zimmermann (1992). They show that the immigrants usually had positive savings, either kept in the host country or remitted.

Sinning (2007) indicates, using data on German migrants, that return intentions are positively correlated on the probability of sending remittances as well as their amount. On an example of Greek migration to Germany, Glytsos (1988) empirically distinguishes temporary migrants, who are more likely to remit for investment and future consumption smoothing purposes, and permanent, who are more frequently remit for altruistic purposes.

Dustmann (1997b) finds that married, immigrant women in Germany, who wish to return to their home country, more frequently participate in a local labour market (as in the GSOEP data). An anticipated return increases their marginal utility of accumulated wealth when they expect that economic situation in a home country may be relatively unfavourable. Galor and Stark (1991) argue along similar lines, that temporary migrants outperform natives at similar positions and with similar skills because they are better motivated to save.

On the other hand, a shorter stay abroad may discourage migrants to bear too high costs of investments into country-specific human capital. Dustmann (1993, 1999) evaluates this hypothesis assessing a relationship between intended duration of stay and the wage gap originating in deficiency of country specific skills, and in particular fluency in German (the GSOEP).

A picture of a temporary migrant emerging from theoretical arguments discussed in the section, is a worker who works hard during her stay abroad and saves or remits home a significant share of her income. At the same time, she has less motivation to learn a language, integrate or invest in her future career in a host country, than the average permanent immigrant. These rather intuitive claims are generally supported by the data. However, the clear weakness of the empirical evidence gathered on behaviour of temporary immigrants is its strong reliance on the GSOEP data.

## 7 Conclusions

The evidence gathered so far suggests that the issue of distinguishing temporary from permanent migration is not only definitional. An attempt to return to a home country is likely be related to closer ties kept by immigrants with their family, friends and labour market at home. Planned temporariness of a stay abroad can therefore impact on migrants' saving, remitting and labour market behaviour. That, in turn, may influence patterns of adjustment of source and host economies to migration flows or unrelated macroeconomic shocks.

The empirical importance of temporary migration is not yet appropriately matched by its theoretical description. On the positive side, general theories of international migration, even though they rarely explicitly separate temporary from permanent migration, can quite well accommodate explanations of temporary stays abroad. It is particularly true for the NEM theory which emphasizes the role of intra-family linkages between emigrants and stayers and existence of home-country based reference groups. The neoclassical life-cycle perspective also provides motives of temporary stays abroad, e.g. when migration counts as a human capital investment with a payoff after a return. On the other hand, macroeconomic theories lack comprehensiveness of micro theories. If anything, by silently assuming homogenous preferences of natives of different countries (as the macro neoclassical theory or international trade models), they seem to correspond closer with permanent labour movements.

Then, are XXI century migrants more likely to act like temporary or permanent leavers or settlers and what does it imply? What makes it difficult to take a clear standing on the interpretation of contemporary migration flows is that empirical evidence on relevance of different hypothesis is not very telling. This state of affairs partially reflects challenges faced by empirical research including limited availability of data on migration. Scarce data resources lead to over-representation of studies focusing on a particular migration wave (e.g. German guest workers information from the GSOEP), taking particular time perspective (heavily employed population census data have only decade frequency) or applying methods that do not assure absence of significant biases e.g. due to small fractions of migrants in random population samples (surveys). Empirical evaluations of theories are also scattered between separate studies on migration initialization, returns or remittances. Studies taking a uniform, general view on interrelated phenomena tied to labour cross-border movements, other than neoclassically grounded trade theory models, are still largely missing.

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