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Lessons from migration impact analysis

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Abstract

In the age of migration, many developed countries face an increasing heterogeneity of their residents. Migrant flows often lead to political discussion about the impact of migrants on labour markets, economic growth, and urban agglomeration processes, and consequently many of these causalities are a source for debate in policy circles and academic research. In this paper on migrant impact analysis we offer a broad, though not exhaustive, overview of research on migration effects and economic development. The impact of migrants on economic growth and development depends strongly on the scope and scale of research, such as the geography of the labour market and the heterogeneity of migrants. In general, no clear negative impact of migration on the economy is found on an aggregate level and in the long run. In the short run, however, some adjustment processes are clearly at work on the regional level. But, more research and data gathering is necessary to point out the exact relationship between migration and economic growth.

Keywords: Migrant diversity, labour markets, economic growth, agglomeration externalities

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Pn384JB

1. Migrant diversity

Although migration has occurred throughout the course of human history, the extent to which people are currently migrating is unprecedented. It is estimated that approximately 200 million people (3 per cent of the world population) are living in a different country than the one where they were born. The destinations of migrants are diverse, so the percentage of migrants in the population of a country differs substantially between countries. The average share of migrants in the population of OECD-countries is about 12 per cent (OECD 2009). It should be noted that migration is an extremely broad concept and can include refugees, expats, seasonal employees, guest workers, the retired, and people moving from rural to urban areas (important economic processes in developing countries like China and India).

From an economic point of view, migration is the result of the mobility of production factors and different factor prices between regions. The mobility of production factors is one of the cornerstones of the efficiency of economic markets. If markets work efficiently, this should lead to economic growth and wealth. However, the inflow of migrants into a country often leads to political debates. Concerns about the impact on, for example, the employment of natives and the neighbourhoods where migrants reside, arise. In the short run, the receiving country's economy has to adapt to the (exogenous) shock of a supply of migrants by making adjustments in its labour market. Individual migrant characteristics and the way labour market institutions and cities where migrants reside function, are all crucial for the impact of migration on the host country's economy. The aim of our paper on migrant impact analysis is to give an overview of the socio-economic effects of migration on the local, regional and national economies of the host country by assessing a vast, though not exhaustive, amount of research done in this field and to point out the relevant research areas that need more exploration and data gathering.

As a result of migration, the diversity of the population of most developed countries has increased sharply and the central question in most research on this topic is whether diversity has a positive or negative effect on economic growth, and whether heterogeneous societies suffer from poor social capital and social cohesion. The general claim that diversity has a positive impact on the economy is based on different hypotheses. The 'melting pot' phenomenon (Jacobs, 1961) states that industrial diversity leads to higher economic growth because ideas are easily exchanged, and thus innovations are more easily made. With a diverse labour force, the number of ways that problems are framed increases, thus producing a richer set of alternative solutions, and consequently innovations (Ottaviano and Peri 2006). So productivity and economic growth rise when people with complementary skills and problem-solving abilities work together.

An alternative way that diversity affects economic growth is that migrants might increase the level of entrepreneurship in the receiving country. Migrants have a higher demand for products from their home country thus intensifying bilateral trade relationships and foreign direct investment (FDI). On the demand side of the economy, diversity of the goods and services

offered in cities might increase the utility of living in those cities. If the utility of living in heterogeneous cities is higher, then more people may want to live and work there thus boosting their economic development (see, for example, the 'love of variety' (Fujita et al. 1999)). The diversity hypothesis described above has similarities with the biological way of looking at the diversity of species[1].

On the other hand, too much social variety may lead to interaction problems, increasing the costs of communicating, and thus leading to the fractionalization of society (the 'Babylon effect' described by Florax et al. (2005)). Heterogeneity can also generate costs if it results in racism and prejudice (Abadie and Gardeazabal 2003) and if it leads to conflicts of preferences concerning public spending (Alesina et al. 1999, Alesina et al. 2004). Social cohesion might also decrease, because in a diverse society the development of trust is more difficult to foster (Alesina and La Ferrara 2002).

The popular views on the melting pot hypothesis prompt the question: what exactly is diversity? Heterogeneity of the level of education (skill-level) of migrants is rather easily observable and often used as an independent variable in research on the effect of migrant diversity on the economy. Cultural diversity is a more general concept and is often measured by country of birth or language. The impact of other diversity measures such as identity and social background are much less easily measured and used in research. A very important aim in future research is to focus on what it is about diversity that influences economic processes.

Some migrant-impact analyses focus on the fiscal impact – taxes paid minus the social welfare benefits received – of migrants. We, however, wish to emphasize that, when only a fiscal impact analysis of immigration is made, many other processes in the economy that are influenced by migrants, and that, in turn, have an impact on economic development are not taken into consideration. Many of these processes are more difficult to quantify than the fiscal impact, but leaving them aside does not mean their impact on economic growth is absent. In these kinds of analyses, the socio-economic impacts, central in this paper, are thus not accounted for.

The remainder of this paper is structured as follows. Section 2 of this study examines the impact of migration on the (local) labour market of the receiving country. Much research has been done on the labour market effects of migration, and the overall finding is that migration has, in general, no clear negative effect on the receiving country's labour market. In the short term, the effect depends on the skill level of migrants. Section 3 deals with the effects of migrants on economic growth through innovation, ethnic entrepreneurship, trade, FDI, and tourism. In the long run, the overall welfare effect is found to be positive. Section 4 of this analysis focuses on the spatial externality effects of migration. Ethnic networks and agglomeration externalities are concepts within this field of research. Research shows that all these indirect effects of migration might significantly add to economic growth and increase the utility of people living in those

[1] For an economic contribution which compares the way economists and biologists and ecologists measure diversity, we refer to Maignan et al. (2003).

cities with greater population diversity. Finally, section 5 draws the conclusions of this paper, and presents a future research agenda.

2. Migrant impacts on the host country's labour market

When looking at the impact of migration on the host country's labour market, the effect on wages, productivity and natives' employment are the central research focus. The main concern is whether migrants take away employment from natives, the 'crowding-out effect', or might have a lowering effect on wages because of an excess supply of (cheap) labour. Also, the way sending and receiving countries gain or lose from the migration of high-skilled labour, 'brain gain' or 'brain drain', has led to interesting research.

In a series of meta-analysis studies[2] by Longhi et al. (2005a, 2005b, 2008a, 2008b, 2009), the authors have estimated the average impact of immigration on the labour market or the direction of causality between immigration and labour market effects. This analytical technique is very useful to obtain a general idea of the impact of immigration on the receiving country's labour market. It is worth noting however, that a meta-analysis is an average impact analysis and that individual case studies offer also valuable insights into labour market processes, especially when differences between regions or countries (i.e. in migration policies, labour market institutions, migrant heterogeneity) are stressed. Therefore, in this section, the results of both research methods are discussed. The selection of various studies using meta-analysis is mainly based on methodological approaches, while the selection of case studies in the present section can be considered somewhat ambiguous, as it is mainly focused on the goal of having a variety in country approaches.

2.1 Labour productivity: wages and employment

A meta-analysis by Longhi et al. (2008a) concludes[3] that the effects of immigration on local or national labour markets (i.e. wages, employment, unemployment and labour force participation) are either insignificant or very small. The regional scope of the labour market in the conducted research is important for the results about the effect of immigration on labour markets. Statistically significant negative impacts of immigration are relatively more frequent in those studies that focus on large geographical labour markets which can be considered less 'open': when focusing research on a small labour market, the adjustment effects in the economy, such as

[2] Meta-analysis requires the acquisition of a cluster of applied modelling studies concerned with the same research question and which use a common econometric specification, in order to draw a general synthesis conclusion.
[3] Based on a sign-test only, meaning the direction of the causality (negative, positive) of 1,572 estimates used for the study concerned.

native out-migration, changes in sectoral and trade composition, an increase in consumption expenditure might be better observed in the data.

Longhi et al. (2005a) have conducted another meta-analysis on the influence of immigration on the wages of the native population and earlier migrant cohorts. The result of this meta-analysis is that the influence of migrants on wages is small; a 1 percentage-point increase in the share of immigrants in the population would lower wages of the native-born population by about 0.1 per cent[4]. There is no difference in the impact of immigrants on the wages of men or women, but immigrants seem to have a much larger impact on the wages of earlier immigrants than on the wages of natives. Earlier and new immigrants thus tend to be closer substitutes in the labour market. As far as employment is concerned, Longhi et al. (2005b, 2008b) also find that, in general, the crowding-out effect is very small in the short run: a 1 per cent increase in the number of immigrant leads to a decrease of 0.02 per cent in native employment[5]. Immigrants seem to have a greater impact on the employment of women than of men, which is likely to be related to their different elasticity of labour supply. Immigrants tend to have the same impact on the employment of both earlier immigrants and natives.

In a qualitative study of the IPPR (2007), the effect of migration on the UK economy is described by ranking working-age population characteristics by country of birth. Large groups of immigrants tend to have better labour market characteristics than the average UK-born, especially those immigrants whose admission to the UK is based on their labour market potential. Immigrants with lower than UK-born average labour market characteristics tend to be family reunification migrants or asylum seekers. In a more in-depth study, the IPPR (2009) shows that the effect of migration on employment in the UK is insignificant though very hard to test in general. Even the overall impact of a sudden influx of migrants (e.g. Central and Eastern European migrants after the enlargement of the European Union) on wages is very small. In this research, a 1 percentage-point increase in the share of immigrants in the UK working-age population reduces wages by around 0.3 per cent. This effect is extremely small when compared with the effect of education on wages. In the UK, the estimated effect of 1 to 3 years of additional schooling after the minimum working age of 16 years on wages is around 10 per cent. It is stressed in the paper that assessing the average impact of migrants on the UK economy is difficult due to the heterogeneity of the migrants and the consequent variation in impact on the UK-economy.

Indeed, when looking at different measures of migrant diversity, a better insight into the processes at work in the labour market is obtained. In a study by Suedekum et al. (2008), the impact of migrant heterogeneity (skill-level, culture and nationality) on the German labour market is analysed. Cultural diversity has a positive impact on the German labour market.

[4] Calculated on the basis of the unconditional average of the 348 estimates in the analysis.
[5] Calculated by means of a meta-analysis based on the unweighted average of the 165 estimates used in the analysis.

Especially high-skilled workers increase local labour productivity. Low-skilled immigrants have a negative effect on local wage and employment. An interesting finding in this research is that the most negative effects of immigrants on German labour markets are to be expected in regions with a large and culturally homogeneous group of unskilled immigrants. In the US, Borjas (2005), CCSCE (2005) and Orrenius and Nicholson (2009) find that, on average (in the long run), the impact of immigrants on the receiving region's employment and wage rates is positive, and only very small substitution-effects between natives and immigrants are observed. The largest negative effect of immigrants is on the wages of earlier immigrant cohorts. Ottaviano and Peri (2006) also find that, in the long run, cultural diversity has a net positive effect on the wages of US workers. In New Zealand (Strutt et al. 2008), the influx of immigrants has caused wages and employment to decrease for some native-born workers and earlier migrant cohorts for whom new migrants are close substitutes in the labour market. Research by Econtech (2006) in Australia shows that an increase in the influx of high-skilled immigrants has led to negative transition-effects in the short run, but to positive labour market effects in the long run; labour force participation, employment and skill level appear to have increased.

The overall conclusions described above are confirmed by the work of Pekkala Kerr and Kerr (2008). They conclude that, on average, immigrants do not have a negative impact on labour markets, but, decomposing the effect for different regions, different migrants and different natives alter the findings somewhat. The impact of migrants on the host economy depends on their skill level, education, age, and length of stay. As far as the native population is concerned, those most likely to be substitutes for migrants are the less-educated workers and earlier migrant cohorts.

2.2 Regional disparities

As is described above, the impact of migrants is different for different regions. The impact of immigration on wages and employment is greater when estimated for European countries than for the US (Longhi et al. 2005a, 2005b, 2008b; Münz et al. 2006), and smaller when the geographical definition of the labour market is narrower (Longhi et al., 2005a, 2005b, 2008b). These findings are confirmed in the meta-analysis of Longhi et al. (2009) that focuses on the local and regional impacts of migration on wages and employment. When the scope of research is more local, the impact of migration on wages is larger in the US than in the European Union, but the impact on employment is larger in the European Union. This is in accordance with the notion that more rigid labour markets clear by means of the adjustment of employment and not of wages. In the above study, no difference is found between the impact of immigration on natives and earlier migrants, nor are gender-effects found. The crowding-out effect is again not validated.

Even within the EU, the effects of migrants on wages and employment show regional differences: the impact of immigrants on wages and employment is negligible or slightly positive

in Greece, Italy, Spain and the UK (Münz et al. 2006). Both the high- and low-skilled immigrants are complements to the native labour force and migrants have easy access to the labour market in these countries. Negative effects of immigration are observed in Belgium, where new immigrants are substitutes in the labour markets for earlier immigrants, and in Germany where labour markets are quite inflexible. In these circumstances, migrants tend to rely on social benefits more often than natives do.

Recent research (Dustmann et al. 2009; Lemos and Porter 2008) also shows that there have been no negative labour market implications from the inflow of Eastern and Central European immigrants after the enlargement of the European Union in 2004. Dustmann et al. (2009) find no negative effect on the UK economy. Eastern and Central European migrants to the UK tend to be young and highly educated and have a high participation rate. This means that, on the contrary, they add to the Treasury by paying taxes.

Though most research on migration is aimed at the receiving country, the sending country's labour market is influenced as well. Although describing the impact of migration on the sending country is not the focus of this paper, we will now briefly elaborate on this. Bhagwati (1976) developed the perspective that receiving countries get the better part of the sending country's labour force, i.e. migrants are positively self-selected, and the sending country experiences a brain drain. Recent research on this topic showed that the brain drain might not actually be that negative for the sending country (Mayr and Peri 2008). Sometimes, the prospect that investments in education and training can pay off, when migrating to a foreign country, leads to higher investments in education in the sending region. This might generate a positive spillover to the sending region's labour market. Also, return migration of high-skilled labour and contacts of high-skilled labour with the home country might increase human capital levels in the sending country. So the brain drain might lead to a brain gain for the sending regions.

The literature overview in this section shows that, on an aggregate level, migrants have no significant negative effect on the host country's labour market. However, when focusing on a more disaggregate level, some negative, but small, effects can emerge when immigrants are close substitutes for native workers. This is mostly the case for low-skilled natives and earlier immigrants for whom low-educated immigrants are close substitutes. High-skilled immigrants tend to have a positive effect on wages and employment. Research on the impact of cultural diversity on wages and employment also shows a positive effect on the host country's labour market. More research is required on regional disparities of the impact of migration. As is described above, labour participation of migrants might be lower in regions with more rigid labour markets, making migrants more dependent on social welfare benefits. In future research, it is important to take into account the crucial role labour market institutions play in determining the position of migrants on the labour market, and thus the regional disparities. Migrant heterogeneity also plays a crucial role, and future research should focus on more in-depth analysis of what exactly it is about diversity in the labour market that increases productivity.

3. Migrant impacts on the host country's economic growth

The previous section on the impact of migration on the host country's labour market was clearly a static analysis and did not account for long term endogenous growth and multiplier effects. The research in this field is still very much in progress and an overview of important findings is given below. The focus of this section will be on the influence of migrants on innovation, entrepreneurship, trade, FDI and tourism. Migrant diversity plays a significant role in this field of research as well.

3.1 Innovation

In the growth literature, innovation is one of the main drivers of economic growth. The impact of a heterogeneous labour force on innovation is an interesting research topic. The general argument is that, in a more diverse labour force, many different opinions are gathered together and will ultimately lead to other and maybe better solutions to problems and new ideas than in a labour force that is composed entirely of like-minded people. If immigrants are high-skilled, then technological change can be accelerated through greater investment and technology transfers (Strutt et al. 2008). Nevertheless, very little research has been undertaken in this specific research field.

The meta-analysis of Ozgen et al. (2009a) focuses on the impact of immigration on income disparities and concludes[6] that the overall effect of immigration on income convergence is positive but modest. They do find that a positive net migration rate coincides with higher economic growth. A 1 percentage-point increase in the net migration rate increases real income per capita by 0.1 per cent. When the characteristics of migrants are taken into account, especially high-skilled migrants, the effect of migration on income convergence is strengthened. This is consistent with the assumption of labour heterogeneity in the new growth theory. The time and the geographical scope of the research is important in this context because the impact of immigrants on growth can differ over time and space. As stated in the previous section, further spatial analysis of migration is required.

Münz et al. (2006) find a positive relationship between financial and human-capital-endowed migrants and economic growth. The argument is that immigrants with high financial assets have a positive effect on consumption and investments. However, although low-skilled migrants cause a decrease in labour productivity, they do also contribute to the development of low-skill sectors that would otherwise have experienced, for example, seasonal labour shortages in Southern European countries. The impact of immigration on growth strongly depends on the labour market

[6] Calculated on the basis of 67 estimates.

performance of migrants and is thus also related to the labour market institutions in the receiving country.

Ozgen et al. (2009b) conducted panel data research to quantify the role of diverse immigrant communities on the innovativeness (patent applications) in 12 Member States of the European Union. They find a positive relation of 0.23 per cent between the share of foreigners in the population and the number of patent applicants. The results also indicate that the composition of the migrant population, i.e. the nationalities of the migrants, influences the innovative capacity of the European regions. By measuring the externalities gained from a culturally heterogeneous society, the research looked into the diversity index and found that a unit increase in the Simpson diversity index, increases patent applications by 2.2 per cent. Saxenian (2007) found that high-skilled Chinese and Indian migrants in the US had a positive effect on the economy and innovation in the US. Hunt and Gauthier-Loiselle (2008) also found that immigrants have a positive effect on innovation. The melting pot hypothesis is thus confirmed in this research.

A different view is offered by Alesina et al. (1999), Angrist and Kugler (2003), Alesina et al. (2004) and Alesina and La Ferrara (2005), who state that cultural diversity can cause economic growth to slow down. This is especially the case when diversity leads to differences in tastes for the provision of public goods, which usually leads to an underprovision of such goods.

3.2 Trade, FDI, tourism and remittances

A clear relation is observed between international trade patterns, migration patterns and FDI patterns. Law et al. (2009) estimate that an increase of 10 per cent of migrants from a certain country moving into New Zealand leads to an increase in exports of industrial goods to that country by 0.6 per cent and an increase in imports from that country of 1.9 per cent. In OECD-countries, on average, an increase in immigrants of 10 per cent from a certain country results in an increase in trade between the two countries concerned of about 4.5 percentage-points (Lewer and van den Berg 2009). Studies in Spain (Blanes-Cristobál 2003) and the US (Mundra 2005) confirm these findings. In general, the positive relation between immigration and trade is due to various mechanisms (Bryant et al. 2004; Strutt et al. 2008; Poot and Strutt 2010). Increasing wealth due to an increase in economic efficiency because of labour migration leads to an increase in trade. Migrants tend to be involved in trade more often on the account of their special position in the labour market (Dunlevy and Hutchinson 1999), and they serve as facilitators between the host and the home countries (World Bank 2006), partly because of their preference for home country products. The import effect in the host country will therefore, in general, be larger than the export effect. Migrants' position in trade is also amplified due to their knowledge of the functioning of their home country's economy and the language, which reduces the transaction costs of trade (see, for example, Combes et al. 2003; Gould 1994; Girma and Yu 2000; Wolf 2000). In this field of research, the skill-level of migrants again plays an important role. Highly educated immigrants generate economic dynamics that create new trade and market

possibilities for both the receiving and the sending countries (World Bank 2006). So, in general, migration stimulates trade relationships between the sending and receiving countries (Ching and Chen 2000; Dunlevy and Hutchinson 1996; Münz et al. 2006; Rauch and Trindade 2002; White 2007).

Besides the relation between migration and trade, an interesting pattern is observed between migration and FDI. The relationship between FDI and migration is special since they can be either substitutes or complements. Gera et al. (2004) argue that an increase in trade liberalization will increase immigration if FDI and immigration are complements. However, if migration and FDI are substitutes, either FDI or migration will take place, depending on relative factor prices. Kugler and Rapoport (2007) take the latter view on FDI and immigration and find that, in the US, migration and FDI are contemporaneous substitutes and dynamic complements.

When considering the global movement of people, tourists account for a large share. More and more research is being undertaken on the relationship between immigration and tourism. Immigration stimulates the export of tourism services. Tourism in the receiving country can increase as a result of friends and relatives visiting the migrants or vice versa, migrants visiting their home country (see Williams and Hall 2000). Tourism can also lead to more trade because tourists like to have the same goods and products at home as they consumed during their stays abroad. However, little research has been done on the effect of migration and tourism because data is lacking (see Gheasi et al. 2010), but some research shows a positive relationship. Applied research in Australia shows that a 10 per cent increase in migration leads to a 5.5 per cent increase in “visits of friends and relatives” -tourists to Australia (Dwyer et al. 1993). Seetaram (2008) says that in Australia the effect of immigration on the demand for tourism is relatively larger than the effect of immigration on growth in trade flows. In the UK, the expenditure of the “visits of friends and relatives” -tourists in 2007 was about €2.6 billion (ONS 2007).

Finally, the impact on the host country of the remittances that migrants send to their home country is still unclear (Münz et al. 2006). On the one hand, remittances have a negative effect because money is transported out of the country, but on the other hand, the tighter relationships with the sending countries may have a positive effect due to an increase in trade and FDI. In 2004, the sum of the outflow of remittances from the 25 EU Member States was about $49.7 billion. However, very little research has been done on the impact of remittance outflows on the host country’s international competitiveness. Empirical results from the UK and Spain show a small but positive impact in trade relations between migrant receiving and migrant-sending countries.

3.3 Entrepreneurship

If the melting pot hypothesis holds, ethnic or migrant entrepreneurship should also add to economic growth. In culturally diverse cities, ethnic stores are a normal part of the urban scene. In the UK, self-employment rates of immigrants are on average higher than the self-employment rates of the UK-born (IPPR 2007). Although 13 per cent of the UK-born working age population

are self-employed, this is 35 per cent for Turkish immigrants and 33 per cent for Pakistani immigrants. In the Netherlands, 7 per cent of the Turkish, 13 per cent of the Chinese, 5 per cent of the Surinamese and 4 per cent of the Moroccan working age population are self-employed. Of the native Dutch working age population, 7 per cent are self-employed (CBS Statline 2003).

Though in the Netherlands the size of ethnic firms is often very small (one-man businesses), ethnic entrepreneurs also contribute to employment in the Netherlands, especially the employment of immigrants (Sahin et al. 2007). In the Netherlands, ethnic entrepreneurship is concentrated in the hotel and catering industry (18 per cent), retail (18 per cent), wholesale (12 per cent) and facility services (11 per cent), although a shift towards business services is taking place between first- and second- generation immigrants[7]. Sahin et al. (2007) calculate that ethnic entrepreneurs in the Netherlands have sales of between €13 billion (underestimation) and €60 billion (overestimation) thus adding significantly to Dutch economic growth.

Ethnic, or migrant, entrepreneurship is not only born out of a need by migrants for ethnic goods. It seems that in general, migrants tend to be more risk-taking in self-employment than their fellow countryman; people who decide to migrate have a strong need to 'make it in life', thus taking more risks and become self-employed. The positive self-selection of migrants might also be at play here (Borjas 1994). On the other hand, difficulties in labour market access in the host country encourages them to become self-employed. This phenomenon leads to cultural diversity in cities. The impact of more differentiated products on the economy is modelled in spatial economic models such as the New Economic Geography (Fujita et al. 1999) and models by Ottaviano and Peri (2006). In these models, cities with a more diversified supply of goods have a positive premium ('taste for variety'), and are thus more attractive. The argument that diversity in a city leads to a higher utility of locating in that city suggests a positive impact of ethnic entrepreneurship on welfare. Section 4 provides insight into the impact of migration on regional development from the use of spatial economic models.

So, in the long run, the impact of migration on economic growth seems to be positive. Many mechanisms are at play in a diverse society that add to, or even multiply, economic growth. Migrants influence innovation, entrepreneurship, trade, FDI, and tourism directly or indirectly and thus boost economic growth. However, research also shows that too much heterogeneity in society might lead to extra costs of harmonizing policies.

4. Migrant impacts on urban and agglomeration processes

Nowadays, half of the world population lives in urban regions making cities an interesting research topic when explaining the processes of economic development. The final section of this impact analysis thus focuses on the spatial selection of economic activities and the role of migrant diversity in these areas. Although the location of cities is often historically determined

[7] Second-generation migrants are the children of migrants.

by proximity to, for example, the sea or a large river, the subsequent growth of cities is determined by their industrial development. When a city develops, the externalities generated by economic activities lead the city towards a virtuous circle of economic growth, attraction of employment, economic growth, etc. Agglomeration in cities might, however, also lead to congestion, high commuting costs, high housing rents and possibly a lack of social cohesion that make cities less attractive to live in. This puts a limit on the efficient size of a city. The relevance of agglomeration forces is continuing to increase, especially when looking at heterogeneous societies.

4.1 Agglomeration forces

Various processes at work in cities that make them attractive for economic activities, and that generate economic growth, i.e. the agglomeration externalities, are described by Glaeser et al. (1992). The externalities of agglomeration that lead to innovation and economic growth are often divided into Marshall-Arrow-Romer (MAR) externalities, Jacobs externalities, and Porter externalities. The first concentrates on industrial concentration (so inter-industry externalities of agglomeration); the second concentrates on intra-industry externalities of agglomeration; and the third concentrates on competition between companies in the same sector leading to agglomeration externalities. In brief, Glaeser et al. (1992) find affirmative evidence for Jacobs externalities, mixed evidence on Porter externalities, and negative evidence for MAR externalities. They stress, however, that MAR externalities might account for the agglomeration of economic activities for a different reason than economic growth and knowledge spillovers. The results might be different for cities in a different stage of development (see also de Groot et al. 2008).

De Groot et al. (2008) find in their meta-analytic study[8] on agglomeration externalities that industry diversity (Jacobs externalities) and competition (Porter externalities) tend to have a positive effect on economic growth. No clear evidence was found for the effects of industry specialization (MAR externalities) on economic growth. Diversity seems to be important for the high-tech sectors. They also find a more positive result for specialization and diversity in more recent data, suggesting that agglomeration externalities have become more important over time. When studying areas with a high-population density, the chance of finding a positive relation between specialization and urban growth increases. So the level of aggregation in the research matters for the results. Furthermore, an interesting finding is that differences in goods and labour market institutions tend not to have an impact on the strength of the agglomeration forces, i.e. the effects of specialisation, competition and diversity are not very different between the US and Europe. Interesting recent research, like the research by Ozgen et al. (2009b) discussed in the previous section, is taking externalities from industry diversity one step further by looking into the effect of externalities from labour diversity, i.e. migrants, on economic growth in regions.

[8] Based on 393 estimates of the statistical significance of agglomeration externalities on economic growth.

4.2 Community and network externalities

In many Western countries, the diversity of the population has increased considerably over the last few decades. Some research has been done on how social processes influence the economy when a society is heterogeneous. Alesina and La Ferrara (2002) state that increasing social diversity could have negative effects on social cohesion in Western societies if mutual trust in societies is more difficult to establish and the sense of community decreases. The negative effects of diversity on economic and social processes depend crucially on individual characteristics such as age, education and income level (Hooghe et al. 2006). People with a low education, low income, and high likelihood of unemployment tend to have a negative perception of diversity. At the country level however, migration or diversity has hardly any significant relation to social cohesion.

When social cohesion in culturally diverse cities is concerned, it can either be seen from a 'contact hypothesis' or a 'conflict theory' point of view (Putnam 2007). The former argues that diversity reduces ethnocentric attitudes, facilitates intra-group trust, and bridges social capital. The latter theory argues that diversity decreases intra-group trust and in-group solidarity or bonding social capital. Putnam (2007) argues that diversity might in fact decrease both bonding and bridging social capital: the 'constrict theory'. This would mean that people living in a diverse society neither turn to their fellow natives nor to other ethnicities, but just refrain from participating in society all together.

Agglomeration forces thus seem to benefit from diversity, since in a diverse city the cross-fertilization of ideas might lead to innovation. Competition is also found to be beneficial for innovations in urban regions. In general, the research on social processes in cities has found that too much heterogeneity might impose extra costs on society. In these processes, individual migrant characteristics play an important role too.

5. Conclusion and research agenda

The overall conclusion from the migration impact analysis studies referred to above is that, on an aggregate level, the impact of migration on the host country is very small and probably positive. As is stated very clearly by the IPPR (2009), and is confirmed by the overview of research given in this paper: "There is simply no evidence to suggest that migration has any substantial negative impact on either wages or employment." When the impact of migration on economic growth in the long run is studied, the impact might very well be positive. Cultural diversity leads to more innovation and thus to economic growth. A positive relation between migration, trade, FDI, and tourism is found. Diversity of goods and services in cities increases the utility of living in these cities under the assumption of the 'taste for variety'. Ethnic entrepreneurs add to the variety of

goods and services in cities. In addition, diversity is found to be an agglomeration force in cities leading to innovation and economic growth.

When migrants enter a country or region, adjustments are taking place. The real adjustment processes at work can only be analysed on a local or regional scale.
Only then can the impact of heterogeneous migrants on different aspects of the receiving country's economy be decomposed. Here, much is to be expected from micro-data research. Promising research on a regional level has been done by Nathan (2008) on the local impacts of migration in the UK and by Partridge et al. (2008) on the impact of migration on rural America. The effect of migrants on the economy crucially depends on their willingness and ability to participate in the labour markets[9]. High-skilled immigrants have a positive effect on the host country's labour market and economic growth by increasing bilateral trade, FDI, and tourism flows. The innovative capacity of an economy is increased with a more diverse labour force, i.e. more nationalities in the labour force.

Though diversity is often referred to as difference in nationality, skill level or language, what exactly lies underneath these concepts that explain diversity is still unclear and should be addressed in future research. Related to this topic is the difference in institutions between countries, and how these impact diversity. Institutions shape the efficiency of the economy, and different skills are required for different institutional settings. Does a country with a strong social welfare system attract or need a different composition of the labour market than a country without such a generous welfare system? It is assumed that migrants influence consumption in a region, if only through an increase in the demand for home-country products. But how do they influence the composition of goods and services in an economy and does the 'love of variety' increase utility for living in that region? From an agglomeration point of view, how does migration and migrant diversity fit into the processes leading to agglomeration? Some work to answer these questions has been done using New Economic Geography (NEG) and other agglomeration models, but integrating the agglomeration processes to explain endogenous growth in regions through these externalities is still a challenge.

The important research questions for subsequent research are thus focussed on these growth processes. Endogenous growth theory and New Economic Geography both are able to explain regional development by different agglomeration externalities. However, the understanding of the role of migration and migrant diversity in these processes, especially on a disaggregate level, is still limited. In follow up research we aim to analyse the growth processes at work in regional areas and the role of migrant diversity in these processes both on a conceptual and empirical level. By doing this, the critical factors inherent in heterogeneous migrant flows that affect regional economic development can be identified.

[9] This is not different from the effect of natives on the labour market and the region's economy.

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