Foreign Direct Investment and International Migration to Dutch Cities

Jeroen van der Waal

Abstract

This article assesses the push- and pull-factor explanation in Sassen's theory on migration from newly industrialising countries to cities in OECD countries separately. The former explanation argues that foreign direct investments spawn migration flows to the country where these investments stem from. The pull-factor explanation revolves around demand for low-skilled workers in cities due to the clustering of advanced producer services. It is found that Dutch investment flows indeed function as a push factor for migration to Dutch cities, but that the local settlement of immigrants is not related to the clustering of advanced producer services.

Biographical note:

Jeroen van der Waal works at the Department of Sociology, Faculty of Social Sciences, Erasmus University Rotterdam, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands. E-mail: vanderwaal@fsw.eur.nl

Foreign Direct Investment and International Migration to Dutch Cities

Introduction

OECD countries attracted a substantial number of immigrants from developing countries in recent decades, and many studies have been devoted to assessing the causes of this phenomenon. The dominant push-factor explanations revolve around underdevelopment and population pressures in developing countries, while pull-factor explanations often focus on demand for low-skilled workers in developed ones (Massey et al., 1993). These classical push and pull factors are practically undisputed, have been corroborated numerous times, and are considered as the 'the root causes' (Martin, 1995, p. 820; cf. Castles and Miller, 2008) for migration from poor to rich countries. Yet, according to Sassen (Sassen-Koob, 1984b, 1986; Sassen, 1988, 2006b), the current phase of economic globalisation yields an additional push and pull factor for such migration, which she combined into an overarching theoretical framework.

The new push factor is the alleged uprooting of traditional work structures in less-developed countries due to foreign direct investments. This uprooting, in combination with the economic and cultural links that result from foreign investments is claimed to initiate migration flows from investment-receiving to investment-sending countries. The new pull factor in Sassen's framework is the high demand for low-skilled workers in cities in developed economies due to the clustering of advanced producer services.

Sassen formulated the overarching theoretical framework that comprises this push and pull factor already in the early 1980s and has repeated it ever since (2006b). Very remarkably, in those three decades it has not been empirically assessed. As a result, its empirical validity remains unanswered, and it is consequently not clear whether the current phase of economic globalisation indeed yields the abovementioned push and pull factors for migration from developing to OECD countries. This lack in the research literature has not gone unnoticed, and several migration scholars therefore urged researchers to assess the FDI-migration nexus empirically (cf. Massey et al., 1993; Sassen, 2006b). This article takes the first step by, firstly, assessing whether migration from less-developed economies to cities in developed ones can be explained by investment flows. Secondly, it will assess whether the high demand for low-skilled workers in cities due to the clustering of advanced producer services functions as a pull factor for these migration flows.

To do so, it will focus on migration to cities in the Netherlands, which is a strategic case for three reasons. Firstly, the Dutch economy is renowned for its substantial outward investment flows into developing countries and for its immigrant inflows from non-OECD countries (De Beer and Koster, 2009). Secondly, previous research showed it harbours a substantial number of cities that widely differ in their employment share in the advanced producer services and the concomitant demand for low-skilled service workers (Van der Waal, 2010, 2012; Van der Waal and Burgers, 2011). Thirdly, these cities are embedded in a centralistic welfare state that affects all cities' labour markets equally, and as such does not interfere the analyses. The Netherlands, in short, is an ideal case for the

research at hand, and the following section will elaborate the theoretical notions that inform that research.

Foreign direct investment and international migration

The push factor of the new immigration: foreign direct investment

According to Sassen (1988, 2006b; Sassen-Koob 1984a), global economic integration stimulates labour migration movements from poor to rich countries. The pivot on which everything hinges in her argument is the new international division of labour. This division of labour results from the (re)location of production processes from highly developed economies – roughly put: OECD countries – to less-developed economies that can mainly be found in Asia, South America and Africa. Due to this (re)location – often referred to as foreign direct investments (FDI) –, a large part of the production of multinational firms by now takes place in less-developed economies. As a result, many of those firms directly or indirectly employ a substantial number people there.

Sassen argues that this causes a 'disruption of traditional work structures' due to 'the transformation of subsistence workers into wage-labor' (Sassen, 1988, p. 18; cf. Massey, 1988). Those who find employment in the production plants that result from such investments mostly come from self-sufficient family economies in rural areas. In sharp contrast, the activities employed in the production plants created by foreign investments, is directed at mass production of export goods for western markets, and often located in coastal regions. Finding employment in those production plants therefore

most times entails a transition from subsistence worker to wage labourer, and domestic migration from rural hinterlands to urban coastal regions. According to Sassen, these intra-regional migrations 'eventually may overflow into long-distance migration' (Sassen, 1988, p. 18; cf. Massey et al., 1993) to the advanced economies, especially to those where the investments came from. The central idea behind this is that:

> the presence of such investments creates cultural-ideological and objective links with the countries providing this capital (…) Besides the long recognized westernization effect of large-scale foreign investment in the less developed world, there is the more specific impact on workers employed in production for export or in the services in the export sector. These workers are using their labor power in the production of goods and services demanded by people and firms in the U.S. or any other highly developed country. The distance between a job in the off-shore plant or office and in the on-shore plant is subjectively reduced. Under these conditions emigration may begin to emerge as an option actually felt by individuals' (Sassen, 1988, p. 18-19).

If so, this means that there might be another explanation for the well-documented migration from underdeveloped economies to the advanced ones, besides the explanations mostly referred to in the literature: 'classical' push factors such as underdevelopment and population pressures. Yet, that is not to say that the FDI and 'classical' explanations are mutually exclusive, but that the former is additional to the latter in times when less-developed economies industrialise due to foreign direct investments. This implies that by now two mechanisms account for migration from those economies to their highly-developed counterparts. The classical one that stresses the 'push' that people experience in less-developed economies because the lack of economic

opportunities, and the mechanism that revolves around the uprooting process that results from foreign direct investments. If both mechanisms are at work, the migration flows induced by the underdevelopment, are by now accompanied by migration flows induced by foreign direct investments. As such, the FDI explanation aims to explain *recent* immigration flows from less-developed countries to cities in the advanced economies. In her publications on this subject Sassen therefore consequently labels these migration flows as 'the new immigration phase' (Sassen-Koob, 1984b, p. 158), 'the current phase of (…) migration' (Sassen-Koob, 1986, p. 86), or 'the current migration phase' (Sassen, 1988, p. 4, cf. 2006b).

A mere three studies previously assessed the impact of foreign direct investments on immigration from less-developed economies to advanced ones (Ricketts, 1987; Sanderson and Kentor, 2008; Yang 1998).[1] However, they did not assess the push factor for migration from less-developed countries to developed ones addressed in this section in combination with Sassen's pull-factor explanation as this study aims to do. As a result, the question whether immigration to cities in the advanced economies is driven by the combination of push and pull factors spawned by foreign direct investments as argued by Sassen yet remains unanswered (cf. Sassen, 2006b). This article aims to answer this question by assessing whether the growth of immigrant groups in Dutch cities can indeed be explained by Dutch foreign investments in the countries where these immigrants stem from. The central expectation to be assessed is *the growth of immigrant populations in Dutch cities is strongest from countries where Dutch foreign direct investments increased most* (hypothesis 1).

The pull factor of immigration: the clustering of advanced producer services

As stated, Sassen combines the push factor outlined in the previous section with a pull factor into an overarching theoretical framework. The reason to do so is the idea that 'the same set of basic processes that (…) promoted emigration from several rapidly industrialising countries (…) also promoted immigration into several booming global cities' (1988, p. 22; cf. 2001, 2006a). The basic argument is that the coordination and control of the globally dispersed production process that stems from the new international division of labour is far more complex than that of vertical integrated firms. As a result, international headquarters of multinational firms outsource the production of those capacities to advanced producer services, such as finance, accountancy and consultancy (Sassen, 2001, 2006a). Those services, in their turn, cluster in cities as to be close to their customers, and to reap the benefits of being in knowledge-dense local networks.

The investment flows outlined in the previous section and this employment growth in the advanced producer services in cities in the advanced economies are, hence, two sides of the same coin. This phenomenon has been aptly summarised as 'decentralised centralisation' (Sassen, 2001, 2002): a globally dispersed production process that is centrally managed in cities in the advanced economies. Initially this argument was formulated for a mere three cities as the subtitle of *The Global City. New York, London Tokyo* reveals (2001), but recently Sassen claimed that there are 'about 40' global cities nowadays (Sassen, 2006a, p. 142). This does, however, not mean that the clustering argument is merely formulated for the limited number of global cities such as Amsterdam (Sassen, 2006a). It is argued that the clustering of advanced producer services also occurs in cities lower in the urban hierarchy: '[p]arallel developments exist

in cities that function as regional nodes – that is, at smaller geographical scales and lower levels of complexity than global cities' (Sassen, 2006a, p. 193).[2]

For the question at hand this is highly relevant, as it is argued that the clustering of advanced producer services 'generates low wage jobs directly, through the structure of the work process, and indirectly, through the structure of the high income life-styles of those therein employed' (Sassen-Koob, 1986, p. 99; cf. Sassen, 2006a). The direct labour demand refers to cleaners, clerks, security and the like (Sassen, 2006a, p. 197). The indirect labour demand entails 'an army of low-wage workers' (…) including 'residential building attendants, dog-walkers, housekeepers for the two-career family, workers in the gourmet restaurants and food shops, French hand laundries, and so on' (Sassen-Koob, 1985, p. 262; cf. Sassen, 2006a), but also refers to workers in a downgraded manufacturing sector directed at limited runs of customized production, and employees in small specialised retail outlets offering limited editions consumer goods (Sassen-Koob 1984b, 1986; Sassen 1993).

This idea – often referred to as the polarisation thesis, as it implies hourglass-shaped job-growth in cities: professionals at the top, and low-skilled workers at the bottom – is one of the central tenets of Sassen's global city theoretical framework (2001, 2006a), and met fierce critiques. Most notably because of Hamnett's counterargument that the rising salience of services in urban economies would lead to professionalisation: job growth in the middle and at the top of the occupational ladder, and job loss at the bottom (1994). This debate has more aspects to it than can here be accounted for, and did yield dozens of studies that did corroborate either the polarisation thesis or the professionalisation thesis (Van der Waal, 2010).

The results of the first studies on Dutch urban labour markets that were informed by the polarisation and professionalisation thesis also did not yield unequivocal support for the former or the latter (Burgers, 1996; Kloosterman, 1996). But recent studies that specifically focused on demand at the bottom of Dutch urban labour markets found empirical support for the polarisation thesis: Dutch cities with the highest shares of employment in the advanced producer services yield the highest demand for lower educated workers, as unemployment levels in those cities are lowest (Van der Waal 2012; Van der Waal and Burgers, 2009, 2011). Similar findings have been documented for cities in the United States (Elliott, 2004) and cities in Germany (Kasarda and Friedrichs, 1985). This indicates that the findings are not a Dutch idiosyncrasy, but stand for a more general pattern in the advanced economies.

According to Sassen, it is this high demand for low-skilled workers spawned by the clustering of advanced producer services that functions as a pull factor for immigration from less-developed countries to cities in the advanced economies: 'it is the expansion in the supply of low-wage jobs generated by major growth sectors that is one of the key factors in the continuation at even higher levels of the current immigration' (Sassen-Koob, 1984b, p. 158; cf. Sassen, 2001, 2006a). This study will assess this notion by, firstly, testing the expectation that *the growth of immigrant populations is strongest in cities with the strongest employment growth in the advanced producer services* (hypothesis 2). If so, according to the pull-factor explanation outlined in this section this is, secondly, *partly driven by employment growth in the industries that cater to the life-styles of the professionals employed in those producer services* (hypothesis 3).

Data and operationalisation

To assess the impact of Dutch foreign direct investments on migration flows to Dutch cities, data retrieved from Statline Statistics of Statistics Netherlands (*Centraal Bureau voor de Statisitiek*, CBS),[3] UNCTAD,[4] the World Bank,[5] the Dutch Central Bank (*De Nederlandse Bank*, DNB),[6] and the Immigration and Naturalisation Service (*Immigratie- en Naturalisatiedienst*, IND),[7] were combined.

The maximum time span of data on migration flows to Dutch cities that could be retrieved ranges from 1996 to 2010. The Netherlands counts 22 metropolitan agglomerations, including a global city – Amsterdam – for which the arguments addressed in this article were primarily formulated. Yet, on the basis of the theoretical notions outlined above, it can be expected that the clustering of advanced producer services in other Dutch cities will attract immigrant flows as well. To find out, the question whether Dutch investment flows indeed spawn migration flows in the exact opposite direction will therefore not merely be assessed for Amsterdam, but also for the 22 Dutch urban agglomerations combined.

The assessment of the pull-factor explanation calls, of course, for a comparison of cities instead of immigrant sending countries, and therefore compares the 22 Dutch urban agglomerations. All variables are outlined below in the order in which they will appear in the analyses.

Variables push-factor analysis

Growth immigrant groups – measures the increase in the number of immigrants from non-European, non-OECD countries by country of origin in Amsterdam (*growth immigrants Amsterdam*), and in the 22 Dutch metropolitan agglomerations combined (*growth immigrants Netherlands*) between 1996 and 2010.[8] Contrary to Ricketts (1987), I measured the absolute increase of immigrant groups instead of the relative increase – that is: total growth instead of relative to the population size of the sending country. The argument addressed in this article revolves around the absolute number of people uprooted by investments, not the relative number.

Table 1 presents 1) the number of all documented immigrants from non-OECD countries outside Europe by country of origin in 1996 and in 2009, and 2) and the growth in that number between those years, for both Amsterdam and the 22 Dutch metropolitan agglomerations combined. Three countries – former colonies – will be excluded from the analyses that follow: the Dutch Antilles, Indonesia and Surinam. Many of the immigrants from those places – of which the first is still part of the Dutch Kingdom – hold Dutch citizenship. Furthermore, and more important here, the bulk of people living there are familiar with the Netherlands and Dutch culture due to previous colonial ties. Hence, there is need to empirically disentangle the effect of cultural ties stemming from (previous) colonial bonds between (the European part of) the Netherlands on the one hand and Indonesia, Surinam, and the Dutch Antilles on the other, from the cultural ties between the Netherlands and those three countries that result from Dutch investments. Unfortunately, the quantitative approach used in this article does not allow the disentangling of the two types of cultural ties mentioned above in any other way than to simply remove them from the analyses.

Of course, the immigrant influx in Dutch cities from the 19 countries that remain also can have other causes than the FDI-migration nexus that is the main focus of this article, such as political reasons and chain migration. However, as we will see below, those causes can be controlled for in the analyses that follow.

Unfortunately, the data used do not allow selecting immigrants by education level, while the arguments addressed in this article obviously revolve around migration of less-educated immigrants. The analyses will therefore be performed while controlling for the estimated share of so-called 'knowledge workers' of each immigrant group.[9] Also, one country of origin in the data set – Morocco – has been sending guest workers to the Netherlands from the 1960s onwards. Although the recruitment of guest workers stopped in the 1980s, the Netherlands has experienced a substantial influx of Moroccans ever since. For a large part, that influx is the result of so-called 'family migration': the reunification or formation of families. In the time-span under scrutiny (1996 – 2009), no less than 87 percent of the immigrant influx from Morocco entailed such family migration (own calculations by means of data from Statline Statistics Netherlands). Therefore, the increase in immigrants from Morocco shown in table 1 will be reduced with 87 percent in the analyses that follow. Of course, guest workers recruitment schemes did result in cultural ties between Morocco and the Netherlands that are more encompassing than the nuclear family ties of those that were recruited. Yet, the impact of those more demographically encompassing ties will be controlled for, as the analyses that follow will also model so-called 'chain migration' (see below) (data: CBS and IND).

Growth Dutch FDI – measures the increase in FDI stock in the immigrant sending countries stemming from the Netherlands in the time span 1993-2006. FDI stock has thus

Table 1: Number of immigrants from non-OECD countries outside Europe by country of origin in Amsterdam and the 22 Dutch metropolitan agglomerations combined in 1996 and 2009, and the growth in this number between 1996 and 2009.

	Amsterdam			22 Dutch urban agglomerations		
	1996	*2009*	*Δ1996-2009*	*1996*	*2009*	*Δ1996-2009*
Afghanistan	344	1,964	1,620	1,445	10,885	9,440
Brazil	868	1,836	968	2,345	5,469	3,124
CapeVerde	357	314	-43	9,167	9,382	215
China	1,504	2,854	1,350	7,455	19,117	11,662
Colombia	590	1,257	667	2,593	5,324	2,731
Dominican	1,170	1,462	292	3,041	4,822	1,781
Dutch Antilles	7,398	7,370	-28	35,895	49,351	13,456
Egypt	2,588	3,452	864	4,979	6,629	1,650
Ethiopia	1,052	1,136	84	3,771	4,434	663
Ghana	5,255	6,688	1,433	7,872	9,583	1,711
Hong Kong	1,476	1,354	-122	5,706	5,573	-133
India	1,916	3,121	1,205	4,957	9,109	4,152
Indonesia	11,621	8,951	-2,670	64,747	51,464	-13,283
Iran	1,396	1,999	603	6,667	11,183	4,516
Iraq	882	1,911	1,029	3,702	13,763	10,061
Morocco	29,635	34,184	4,549	90,617	105,679	15,062
Pakistan	3,205	3,225	20	7,648	7,897	249
Philippines	997	1,371	374	2,403	4,167	1,764
Russian Federation	1,025	3,236	2,211	3,598	15,975	12,377
Somalia	578	703	125	5,640	6,256	616
Surinam	45,680	39,902	-5,778	126,282	118,803	-7,479
Vietnam	110	271	161	2,680	3,833	1,153
Total	119,647	128,561	8,914	403,210	478,698	75,488

Source: CBS (own calculations).

been measured with a time-lag of three years prior to *growth immigrant groups*, as the

migration effects of foreign direct investments are not likely to occur instantly –

modelling a time-lag is therefore standard research practice in this kind of analysis.

Instead of the *relative* growth in the time span under scrutiny (cf. Ricketts, 1987;

Sanderson and Kentor, 2008; Yang, 1998), the *absolute* growth – that is: the total amount

instead of the percentage of the gross domestic product of the receiving country – is used.

This is most in accordance to the theoretical rationale addressed in this article: the

absolute amount is a more accurate measure of the number of people employed in FDI-

driven production sites / export processing zones than the relative amount. These are the

people that are likely to be 'pushed' towards migration. *Growth Dutch FDI* proved to be

strongly skewed – it had a skewness score of more than 2 – and therefore its logarithmic

form will be used in the analyses that follow (data: UNCTAD).

　　　Growth total FDI – measures the increase in total FDI stock in the immigrant

sending countries in the time span 1993-2006 in a similar way as *Growth Dutch FDI*. It is

used for empirically disentangling the 'long recognized westernization effect of large-

scale foreign investment' (Sassen, 1988, p. 18-19), from the effects induced by the

cultural links stemming from Dutch FDI. It is after all the latter that we are interested in

for explaining migration flows to Dutch cities, while the former might also be responsible

for (part) of that migration. *Growth total FDI* is strongly skewed – its skewness score is

above 2 – and therefore its logarithmic form will be used in the analyses that follow

(data: UNCTAD).

Population growth – is the first indicator used as to control for classical migration theories. It is measured as the population growth in the immigrant sending countries between 1999 and 2000, as a percentage of the population in 1999 (data: World Bank).

Gross domestic product per capita – is the second indicator that will be used as to control for classical migration theories. It measures the gross domestic product of the immigrant sending countries in the year 2000 divided by their population size (data: World Bank).

Distance – for a proper test of both the FDI-migration nexus and classical migration theories there is need for control variables. The first one of these measures the distance between the immigrant sending country and the Netherlands, as it is expected that long distances will hamper migration (cf. Portes, 2000) (data: http://www.timeanddate.com/).

Asylum requests – is the second control variable. Various immigrant sending countries experienced political turmoil during the time span assessed in this article; most notably Afghanistan, Iran, Iraq and Somalia. Hence, part of the immigrant influx from those countries entails refugees that have been granted access in the Netherlands on the basis of human-rights treaties. To empirically disentangle such immigration from that which stems from FDI investments and/or population pressures and underdevelopment, the analyses will control for the number of asylum requests the Netherlands received from all countries in the dataset in the period under scrutiny (data: CBS).

Immigrants 1996 – as to control for chain migration (Portes, 2000), the third control variable measures the number of immigrants from each country in the first year of the assessed time span in Amsterdam (*immigrants 1996 Amsterdam*), and the 22 Dutch

urban agglomerations combined (*immigrants 1996 Netherlands*). Both measures had a

skewness score of more than 2, and will therefore be entered in the analyses in

logarithmic form (data: CBS).

Table 2 presents the bivariate relationships between all variables for the push-

factor analysis. Besides some obvious strong correlates – i.e. between 1) *growth*

immigrants Amsterdam and *growth immigrants Netherlands*, 2) *immigrants 1996*

Amsterdam and *immigrants 1996 Netherlands* and 3) *Dutch FDI* and *total FDI* – several

relationships are quite informing. Firstly, *asylum requests* is strongly correlated to *growth*

immigrants Netherlands, but not to *growth immigrants Amsterdam*. This mirrors Dutch

migration policies, as housing arranged for asylum seekers is scattered across the country.

Furthermore, as the number of asylum requests can be considered a measure of political

turmoil, the strong negative correlation with *total FDI* does not surprise: political

instability hampers the influx of foreign investments.

Secondly, the bivariate relationships between both measures of *immigrant growth*

and *Dutch FDI* are positive, as could be expected on the basis of the FDI-migration

nexus. Yet, in the end the litmus test for the empirical validity of that nexus cannot be

determined by a bivariate relationship, as such a test needs to control for other

explanations, and will be done in the upcoming analyses.

Variables pull factor analysis

Growth immigrant share – measures the increase of the immigrant population between

1997 and 2008 in the 22 metropolitan agglomerations as the share of the working

population in 1997. This increase has been measured while controlling for the number of

Table 2: zero-order correlations (N = 19)

	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Growth immigrants Amsterdam (1)	0.826**	0.467*	0.234	-0.175	-0.180	-0.358	0.230	0.121	-0.159
Growth immigrants Netherlands (2)	-	0.368	0.136	-0.140	-0.127	-0.326	0.560*	-0.113	-0.244
Dutch FDI (3)		-	0.721**	0.434~	-0.619**	0.169	-0.234	-0.027	-0.188
Total FDI (4)			-	0.604**	-0.770**	0.245	-0.533*	0.206	0.034
GDP per capita (5)				-	-0.495*	0.174	-0.322	0.234	0.222
Population growth (6)					-	-0.130	0.482*	0.068	-0.105
Distance (7)						-	-0.280	-0.439~	-0.492*
Asylum requests (8)							-	-0.253	-0.195
Migrant stock Amsterdam (9)								-	0.762**
Migrant stock Netherlands (10)									-

Source: OECD, World Bank, UNCTAD, FNB, IND, and CBS (own calculations).
~p< 0.10; * p< 0.05; ** p< 0.01.

knowledge workers and family migration from Morocco (compare the measurement of growth immigrant groups for the push-factor analysis). *Growth immigrant share* has a slightly smaller data range than the one used when assessing the push-factor explanation, because the data for the pull factor could not be retrieved for such a wide range of years (see below) (data: CBS).

Growth employment advanced producer services – measures the growth in the share of the working population in each agglomeration that is employed in firms classified in class J (finance), and class K (real estate and producer services) in the International Standard Industrial Classification of All Economic Activities of the United Nations (ISIC Rev. 3.1). The maximum data-range that could be retrieved ranges from 1995 to 2008. As such, it measures the employment growth two years prior to the growth in the immigrant share in the working population. Such a two-year time lag is standard research practice in labour market studies because the migration effects of labour demand are not likely to occur instantly (data: CBS).

Growth employment hotel and catering industry and *growth personal services and cultural activities* – measure the growth in the share of the working population that is employed in firms classified in class H and O in the ISIC Rev. 3.1 classification respectively, between 1995 and 2008. For similar reasons, both have, just as *growth employment advanced producer services*, been measured with a two-year time lag. In line with Sassen's pull-factor explanation, it would be optimal if the impact of the share of employment in private households (class P in the 'ISIC Rev. 3.1') could also be modelled. Unfortunately, it is not available at metropolitan level in the Netherlands. Also, metropolitan-level data do not allow to model employment in 1) in a downgraded

manufacturing sector directed at limited runs of customized production, and 2) small specialized retail outlets offering limited editions of 'hipster' consumer goods, as these cannot be empirically disentangled from 1) large-scale mass production and 2) large-scale wholesale and retail trade in the ISIC Rev. 3.1 classification, respectively (data: CBS).

Immigrants 1997 – measures the share of immigrants in the working population of each agglomeration in 1997. It will be used as a control variable for chain migration (Portes, 2000), and the notion that the consumption of low-wage immigrants in itself spawns labour demand that attracts new waves of immigration (Sassen-Koob 1984b, 1986; Sassen 1993) (data: CBS).

Results

Assessing Dutch FDI as push factor

Table 3 contains the analysis that tests the FDI-migration nexus for migration to Amsterdam, while table 4 contains that analysis for migration to the 22 Dutch urban agglomerations combined.[10] In the first model, it is shown that the coefficients of two out of three control variables are in the expected direction: the highest immigrant growth stems from countries that are most nearby, and a high number of asylum requests is accompanied by high immigrant growth. The number of immigrants in 1996 is, contrary to what can be expected on the basis of arguments centring on chain migration, not positively related to immigrant growth.

Table 3: growth immigrant groups in Amsterdam (1996-2009) explained by 1) growth in (Dutch) foreign direct investments, 2) population growth, and 3) GDP per capita (regression analysis; entries are standardized regression coefficients; estimation: ordinary least squares).

	Model 1	*Model 2*	*Model 3*	*Model 4*	
Independents	*β*	*B*	*β*	*β*	*VIF*
Constant	0.000	0.000	0.000	0.000	
Growth total FDI	0.562*	0.106	_	_	
Growth Dutch FDI		0.572~	0.593**	0.687**	1.730
Population growth				-0.096	2.161
GDP per capita				-0.390*	1.405
Controls					
Distance	-0.422~	-0.373~	-0.385*	-0.359*	1.115
Asylum requests	0.390~	0.312	0.261	0.210	1.429
Immigrants 1996	-0.081	0.029	_	_	
R²	0.362	0.479	0.474	0.583	
N	19	19	19	19	

Source: OECD, World Bank, UNCTAD, FNB, IND, and CBS (own calculations).
~p< 0.10; * p< 0.05; ** p< 0.01, one-sided.

Model 1 in both table 3 and 4 also contains the indicator for the total FDI in the immigrant-sending countries, which yields a quite strong positive significant coefficient: a high level of investment in immigrant sending countries is accompanied by a high immigrant influx from those countries in both Amsterdam and the 22 Dutch urban agglomerations combined. This points in the direction of a general westernisation effect of FDI as has previously been emphasised by scholars such as Sassen (1988) and Massey (1988). But our primary interest in this article is whether Dutch FDI spawns immigration to the Netherlands, and therefore growth Dutch FDI is entered into model 2 of table 3 and4.

Table 4: growth immigrant groups in 22 Dutch urban agglomerations (1996-2009) explained by 1) growth in (Dutch) foreign direct investments, 2) population growth, and 3) GDP per capita (regression analysis; entries are standardized regression coefficients; estimation: ordinary least squares).

	Model 1	Model 2	Model 3	Model 4	
Independents	β	β	β	β	VIF
Constant	0.000	0.000	0.000	0.000	
Growth total FDI	0.633**	0.459*	0.374~	0.578*	3.522
Growth Dutch FDI		0.211	0.320~	0.319~	2.231
Population growth				–	
GDP per capita				-0.338*	1.576
Controls					
Distance	-0.461*	-0.434*	-0.258~	-0.249~	1.104
Asylum requests	0.699**	0.673**	0.762**	0.764**	1.547
Immigrants 1996	-0.356	-0.302	–	–	
R²	0.633	0.732	0.679	0.752	
N	19	19	19	19	

Source: OECD, World Bank, UNCTAD, FNB, IND, and *CBS* (own calculations).
~p< 0.10; * p< 0.05; ** p< 0.01, one-sided.

In the table containing the analysis on migration flows to Amsterdam, the positive impact of Dutch FDI on those flows is rather strong. What is more, it does completely take over the effect of total FDI. This indicates that the influx of immigrants into Amsterdam – at least from 1996 onwards – is partly driven by the cultural links that stem from Dutch FDI in their countries of origin, and not by an all-encompassing westernisation effect that accompanies FDI in general. For the immigrant flows into the 22 Dutch urban agglomerations combined, this seems less clear. Although there is a positive effect of Dutch FDI that partly accounts for the effect of total FDI, it is less convincing than in the case of Amsterdam.

Considering the small number of countries in the data set, all variables that thus far proved irrelevant have been removed in model 3. For the analysis on Amsterdam (table 3) this means that *growth total FDI* and *immigrants 1996* have been removed, while for the analysis on the 22 urban agglomerations combined only the latter has been removed. For Amsterdam this does not alter the findings thus far, while for the 22 agglomerations combined the effect of Dutch FDI increases in strength, while the effect of total FDI decreases in strength. Immigration to Amsterdam, then, seems to be driven by Dutch FDI, while immigration to the 22 Dutch urban agglomerations combined seems to be driven by both forms of FDI. This points in the direction that the latter immigration is the result of both a general westernisation effect and of cultural ties stemming from Dutch FDI, while the former immigration is merely the result of Dutch cultural ties accompanying Dutch FDI. To validate those findings they need at least to be confronted with the most dominant theories on migration from less-developed economies to developed ones: classical migration theories that focus on population pressures and underdevelopment.

The last step in the analyses on the push-factor explanation, presented in model 4 in tables 3 and 4, therefore adds the indicators for classical migration theories: *population growth* and/or *GDP per capita*. They have both been entered into table 3, while only the latter has been entered into table 4. This because the latter table contains one more variable, while minimising the number of variables seems appropriate due to the small number of countries in the data set. Note however that including population growth in table 4 does not alter the presented findings.[11] The analyses on both Amsterdam and

the 22 Dutch urban agglomerations combined show that both Sassen's FDI-migration

nexus and classical migration theories can explain the increase in immigrants.

Not only has the impact of Dutch FDI maintained when confronted with

indicators for classical migration theory, but the latter theory also has explanatory value:

a low GDP per capita in immigrant-sending countries results in a high immigrant increase

in both Amsterdam and the 22 Dutch urban agglomerations combined. The last model in

both tables also includes the variance inflation factors (VIF), which are all far below the

score of 10. This means that, despite the sometimes high correlation between independent

variables (see table 2), there is no severe multicollinearity (Myers, 1990). All in all, it

seems therefore safe to conclude that hypothesis 1 – *the growth of immigrant populations*

in Dutch cities is strongest from countries where Dutch foreign direct investments

increased most – is corroborated.

Assessing advanced producer service growth as pull factor

If the pull-factor explanation in the FDI-migration nexus as it has been formulated by

Sassen is correct, it can be expected that in Dutch cities where employment in the

advanced producer services increased most the growth of immigrants also increased most

(hypothesis 2). It can on the basis of the same explanation furthermore be expected that

this will be partly driven by the increase in employment in 1) the hotel and catering

industry, and 2) personal services and cultural activities: those sectors are claimed to

cater to the professionals employed in the advanced producer services (hypothesis 3). To

find out, table 5 will in the first model assess the impact of the employment growth in the

advanced producer services on the growth in the immigrant share in the working

population in the 22 Dutch urban agglomerations. In the second model it is assessed

whether the hypothesised effect of those services can (partly) be accounted for by

employment in the hotel and catering industry and personal services and cultural

activities as suggested in Sassen's pull-factor explanation. Just as the analysis on the

push-factor explanation, this analysis will, furthermore, control for chain migration:

immigrant settlement might also result from ethnic ties and networks (Portes, 2000), and

from the demand for immigrant labour driven by already settled immigrants as suggested

by Sassen (Sassen-Koob 1984b, 1986; Sassen 1993).

Table 5: growth immigrant share in the working population in 22 Dutch urban agglomerations (1997-2007) explained by growth in employment share of advanced producer services (1995-2007) (regression analysis; entries are standardized regression coefficients; estimation: ordinary least squares).

	Model 1	Model 2	
Independents	B	β	VIF
Constant	0.000	0.000	
Growth employment advanced producer services	-0.047	-0.015	1.179
Growth employment hotel and catering industry		0.171	1.077
Growth personal services and cultural activities		-0.060	1.128
Controls			
Immigrant stock 1997	0.613**	0.651**	1.279
R^2	0.359	0.385	
N	22	22	

Source: CBS (own calculations).
~$p < 0.10$; * $p < 0.05$; ** $p < 0.01$, one-sided.

Contrary to her push-factor explanation, Sassen's pull-factor explanation for

immigrant flows from developing countries to cities in the developed economies does not

yield any empirical support for the Dutch case. Immigrant growth is not significantly related to the growth in employment in the advanced producer services. If it would be, employment growth in 1) the hotel and catering industry, and in 2) personal services and cultural activities could not account for it as both yield insignificant coefficients. Both hypotheses 2 and 3, deducted from the pull-factor explanation, therefore need to be rejected. The pull-factor rationale in Sassen's FDI-migration nexus cannot account for the settlement of immigrants in Dutch cities, and that settlement, hence, calls for another explanation.

Chain migration seems to be such an alternative explanation, as the indicator for it in this analysis has a quite strong positive effect on immigrant growth. It should, however, be noted that it is a rather crude indicator as it does not discriminate between immigrant-sending countries. In the Netherlands, then, immigrants settle in cities where already many immigrants reside, and that is clearly not because such cities have an abundance of labour-market opportunities directly or indirectly driven by employment growth in advanced producer services as theorised by Sassen. How the chain migration exactly comes about, however, is another chapter and goes beyond the scope of this study. The concluding section will further elaborate on these findings.

Conclusions

This article assessed the central claims in Sassen's FDI-migration nexus for immigration from less-developed economies to Dutch cities. This nexus combines a push-factor

explanation which revolves around investment flows, with a pull-factor explanation which revolves around demand for low-skilled workers due to the clustering of advanced producer services in cities. Sassen combined these factors into one framework on the basis of the idea that they share a root cause: the new international division of labour due to the (re)location of parts of the production process from developed economies to newly industrialising ones.

The analyses suggest that the claim concerning the push factor for migration from developing economies to developed ones is correct when applied to Dutch cities. Controlled for factors that according to classical migration theories drive such immigration – underdevelopment and population pressures –, and a wide-ranging westernisation effect that allegedly accompanies FDI influx in general, Dutch investments in less-developed economies were demonstrated to increase migration flows from those countries to Dutch cities between 1996 and 2010.

Besides that this finding is in line with the push-factor argument in Sassen's FDI-migration nexus, which will be dealt with later on, it raises serious questions about policy arguments derived from the 'the root causes' (Martin, 1995, p. 820) of immigration from less-developed economies to the advanced ones: underdevelopment, 'low wages and few jobs' (Martin, 1995, p. 820). In line with these causes it is claimed that 'immigration countries can influence the propensity to emigrate from other countries through three major economic channels – trade, investment, aid' (Martin, 1995, p. 820). Although investments in less-developed economies indeed lead to economic growth (Hahm and Heo, 2008), this article indicates, that such growth does not have unequivocal consequences when it comes to migration pressures. As far as economic growth is driven

by foreign direct investments, it is likely to lead to decreasing emigration due to improving economic conditions on the one hand, while it, on the other hand, strengthens or even initiates emigration due to the cultural and objective links with countries where such investments come from. All this should be interpreted with care however as the corroboration of the 'FDI drives emigration argument' in this study is based on investments from one advanced economy in a limited number of less-developed economies. On the other hand, one should keep in mind that three earlier studies also corroborated this link at country level. Yet, future research could shed more light on this 'development paradox' when it comes to migration from less-developed economies to advanced ones.

Although findings in this article are in line with Sassen's push factor argument, more research is needed as to uncover its empirically validity. In the first place because the central mechanism of this explanation revolves around the uprooting of people due to the introduction of the capitalistic logic of wage-labour. This study is unable to validating such a claim, as it calls for ethnographic research in the export processing zones of immigrant sending countries.

The second, and probably most substantial reason why future research could shed more light on the validity of Sassen's push-factor explanation, is that the findings in this study can also be interpreted according to another theory. It basically claims that outward FDI flows are *initiated* by immigrants, instead of the other way round (Kugler and Rapoport, 2007). In this line of reasoning, it is the information immigrants have about investment opportunities in their country of origin that drives these investment flows, and it can consequently be expected that it refers to highly-educated immigrants. Considering

that this study could only control for knowledge workers by using a crude measure for it, future research on the causal direction of the relationship between FDI and immigration that was found in this study becomes even more relevant. Yet, as foreign direct investments were measured three years prior to migration flows in this study, it seems very unlikely that the results actually measure the investment flows from immigrants in Dutch cities to their home countries.

Contrary to the push-factor explanation, the pull-factor explanation in Sassen's FDI-migration nexus could not be empirically corroborated. Previous studies indeed showed that Dutch cities with a high employment share in the advanced producer services have the smallest mismatch between labour demand and labour supply at the bottom of the labour market. However, the high labour demand in those cities proves not to be a pull factor for the new immigration: growth in the immigrant population in Dutch cities was neither related to growth in advanced producer services, nor to the growth in the sectors that allegedly cater to the life styles of the professionals employed in those services. Even if the latter growth would be related to immigrant growth, this would not be in accordance to the theoretical rationale of Sassen's pull-factor explanation, as it predicts that this relationship needs to (partly) account for the effect of advanced producer services' growth. There is, however, no effect of the growth in those services on immigrant growth in the first place. This indicates that the data limitations for modelling the labour demand driven by the life-styles of the professionals employed in the advanced producer services cannot be responsible for the finding that immigrant growth in Dutch cities is not in accordance to Sassen's pull-factor explanation.

What might account for this finding is Hamnett's (1994) critique on Sassen's polarisation thesis. European welfare regimes might inhibit the creation of a 'service proletariat' and a downgraded manufacturing sector directed at the production of speciality items and limited edition garments demanded by the upper occupational strata, as the relatively high wages at the bottom end of the labour market hamper the local commodification of these activities. It needs to be emphasised here that the pull-factor explanation assessed in this article was primarily formulated with the New York labour market in mind. The results of this study, however, imply that this explanation does not travel well beyond such relatively unregulated urban economies. In the end, however, this is an empirical question that only future research can decide.

Besides the Dutch welfare regime, kinship, ethnic or social ties with former waves of immigrants might influence where immigrants decide to live (cf. Zorlu and Mulder, 2008), whether this improves their labour-market position or not. And the strong impact of the indicator for chain migration in the pull-factor analysis strongly points in that direction. However, part of this 'chain migration' might, in the end, be related to labour demand by means of other mechanisms than the pull-factor explanation assessed in this article. Firstly, the presence of immigrant communities might in itself lead to labour demand in the industries that cater to those communities, attracting new waves of immigrants (Sassen-Koob 1984b, 1986; Sassen 1993). If so, (part of) the substantial effect of the indicator for chain migration in the pull-factor analysis in the end needs to be interpreted according to labour-market logic. Secondly, the data used in this article do not allow uncovering whether labour demand in the informal economy attracts new waves of immigrants. Yet, if such an informal economy would be directed at serving the

consumption pattern of the professionals employed in the advanced producer services as theorised by Sassen (Sassen-Koob 1984b, 1986; Sassen 1993), one would expect an effect of advanced producer services' growth in the analysis on the pull-factor explanation. That the growth in those services had no effect on immigrant growth is therefore at odds with that theorising.

All that said, this study is the first attempt at assessing Sassen's FDI-migration nexus empirically, and it had to deal with various limitations. Future research therefore needs to decide whether its main findings – the push-factor explanation is empirically valid while the pull-factor explanation is not – are robust, and how far they travel beyond the Dutch case.

Notes

[1] Although there are more studies on the impact of foreign direct investments on migration, those specifically focused on knowledge workers.

[2] The question whether a globally dispersed production process underlies the vast increase in employment in services in cities in the developed economies is still open, and most empirical studies on this matter point towards other explanations (Van der Waal, 2010). Yet, it is the leading idea that underlies Sassen's claim that the push and pull factor addressed in this study are two sides of the same coin.

[3] http://statline.cbs.nl/statweb/?LA=en.

[4] http://www.unctad.org/.

[5] http://web.worldbank.org/.

[6] http://www.dnb.nl/en/home/index.jsp.

[7] http://english.ind.nl/.

[8] European countries from the former East Block are left out of the analyses, as these countries joined the European Union in the assessed time span, and some of these joined the OECD. This was accompanied by another regulatory regime for labour movement. Consequently, the extent to which immigration from these countries to the Netherlands is driven by Dutch FDI and the extent to which this is driven by that regime change is impossible to disentangle empirically.

[9] Since 2004, the IND registered the number of knowledge workers that applied for residence in the Netherlands (INDIAC 2009). Their figures indicate that from the 19 countries in the data set, 3 did send a substantial number of such immigrants: India, China

and Russia. The average annual number of knowledge workers from these countries between 2005 and 2009 are taken as a percentage of the total increase of immigrants from those countries in that time span. This would mean that between 2005 and 2009, 11.8 percent of the Russian immigrants, 27.8 percent of Chinese immigrants, and 128 percent of Indian immigrants in the data set were knowledge workers. These percentages are used as an indicator for the share of knowledge workers from these countries in the complete time span assessed in this article (1996-2009). In the analyses, the growth in the number of Russian, Chinese, and Indian immigrants has therefore been reduced by 11.8 percent, 27.8 percent, and 100 percent respectively. That the number of knowledge workers from India in the Netherlands as a whole exceeds the total number of Indian immigrants who settled in the 22 Dutch metropolitan agglomerations combined in the assessed time span, indicates that the number of knowledge workers is overestimated in the analyses. This means that the FDI-immigration nexus is tested more strictly.

[10] All variables have been standardised in the analyses as to improve the comparability of the coefficients.

[11] Findings available upon request.

References

Burgers, J. (1996) No Polarisation in Dutch Cities? Inequality in a Corporatist Country, *Urban Studies*, 33(1), pp. 99-105.

Castles, S., and Miller, M.J. (2008) *The Age of Migration. International Population Movements in the Modern World*. 4th ed. Houndsmills: PALGRAVE MACMILLAN.

De Beer, P., and Koster, F. (2009) *Sticking Together or Falling Apart. Solidarity in an Era of Individualization and Globalization*. Amsterdam: Amsterdam University Press.

Elliott, J.R. (2004) The Work of Cities: Underemployment and Urban Change in Late-20th-Century America, *Cityscape*, 7(1), pp. 107-133.

Hahm, S.D., and Heo, U. (2008) U.S. and Japanese Foreign Direct Investment in East Asia: A Comparative Analysis, *The Policy Studies Journal,* 36(3), pp. 385-401.

Hamnett, C. (1994) Social Polarisation in Global Cities: Theory and Evidence, *Urban Studies*, 31(3), pp. 401-425.

INDIAC (2009) Monitor Kennismigrantenregeling 2008, Retrieved 25-11-2009, from http://www.ind.nl/nl/Images/12.%20eindrapport%20Monitor%20Kennismigranten%202008%20-%20v%2006%20-%20naar%20repro%20090311%20DEF_tcm5-183778.pdf.

Kasarda, J.D. and Friedrichs, J. (1985) Comparative Demographic-Employment Mismatches in U.S. and West German Cities, *Research in the Sociology of Work* 3(1), pp. 1-30.

Kloosterman, R.C. (1996) Double Dutch: Polarisation Trends in Amsterdam and

 Rotterdam, *Regional Studies*, 30(5), pp. 467-476.

Kugler, M. and Rapoport H. (2007) International Labor and Capital Flows: Complements

 or Substitutes?, *Economics Letters*, 94(2), pp. 155-162.

Martin, P.L. (1993) An Evaluation of International Migration Theory: The North

 American Case, *Population and Development Review*, 20(4), pp. 699-751.

Martin, P.L. (1995) Investment, Trade, and Migration, *International Migration

 Review*, 29(3), pp. 820-825.

Massey, D.S. (1988) Development and International Migration in Comparative

 Perspective, *Population and Development Review*, 14(3), pp. 383-413.

Massey, D.S., Arango, J., Hugo, G., Kouaochi, A., Pellegrino, A. and Taylor, J.E. (1993)

 Theories of International Migration: A Review and Appraisal, *Population and

 Development Review*, 19(3), pp. 431-466.

Myers, R.H. (1990) *Classical and Modern Regression with Applications*. 2nd ed.

 Belmont: Duxbury Press

Portes, A. (2000) Immigration and the Metropolis: Reflections on Urban History, *Journal

 of International Migration and Integration*, 1(2), pp. 153-157.

Ricketts, E. (1987) U.S. Investment and Immigration from the Caribbean, *Social

 Problems*, 34(4), pp. 374-387.

Sanderson, M.R. and Kentor, J. (2008) Foreign Direct Investment and International

 Migration: A Cross-National Analysis of Less-Developed Countries, 1985-2000,

 International Sociology, 23(4), pp. 514-39.

Sassen, S. (1988) *The Mobility of Labor and Capital. A Study in International Investment and Labor Flow*. Cambridge: Cambridge University Press.

Sassen, S. (1993) Rebuilding the Global City: Economy, Ethnicity and Space, Social Justice, 20(3/4), pp. 32-50.

Sassen, S. (2001) *The Global City: New York, London, Tokyo*. 2nd ed. Princeton: Princeton University Press.

Sassen, S. (2002) Locating Cities on Global Circuits, *Environment & Urbanization*, 14(1), pp. 13-30.

Sassen, S. (2006a) *Cities in a World Economy*. 3rd ed. Thousand Oaks: Pine Forge Press.

Sassen, S. (2006b) Foreign Investment: A Neglected Variable, in: A.M Messina and G. Lahav (Eds.) *The Migration Reader: Exploring Politics and Policy*, pp. 596-608. Boulder: Lynne Rienner Publishers.

Sassen-Koob, S. (1984a) Direct Foreign Investment: A Migration Push-Factor, *Environment and Planning C*, 2(4), pp. 399-416.

Sassen-Koob, S. (1984b) The New Labor Demand in Global Cities, in M.P. Smith (Ed.) *Cities in Transformation: Capital, Class and Urban Structure*, pp. 139-171. Beverly Hills: Sage.

Sassen-Koob, S. (1985) Capital Mobility and Labor Migration: Their Expression in Core Cities," in M. Timberlake (Ed.) *Urbanization in the World-Economy*, pp. 231-265. Orlando: Academic Press.

Sassen-Koob, S. (1986) New York City: Economic Restructuring and Immigration, *Development and Change*, 17(1), pp. 85-119.

Van der Waal, J. (2010) *Unravelling the Global City Debate. Economic Inequality and Ethnocentrism in Contemporary Dutch Cities*. Doctoral dissertation, Erasmus University Rotterdam.

Van der Waal, J. (2012) Post-Industrialisation, Immigration, and Unemployment. How and Why the Impact of Immigration on Unemployment Differs Between Dutch Cities.' *Urban Studies* 49 (8), pp. 1711-24.

Van der Waal, J. and Burgers, J. (2009) Unravelling the Global City Debate on Social Inequality: A Firm-level Analysis of Wage Inequality in Amsterdam and Rotterdam, *Urban Studies,* 46(13), pp. 2715-2729.

Van der Waal, J. and Burgers, J. (2011) Post-Industrialisation, Job Opportunities and Ethnocentrism: A comparison of Twenty-two Dutch Urban Economies, *Urban Studies*, 48(4), pp. 681-697.

Yang, P.Q. (1998) The Demand for Immigration to the United States, *Population and Environment: A Journal of Interdisciplinary Studies*, 19(4), pp. 357-383.

Zorlu, A. and Mulder, C. (2008) Initial and Subsequent Location Choices of Immigrants to the Netherlands, *Regional Studies*, 42(2), pp. 245-264.