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# INDUSTRIAL MOBILITY IN THE NETHERLANDS

*Patterns, causes, and impacts for spatial policy*

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**Keywords:** industrial mobility, firm migration, migration balance, migration factors, location decisions, locational preference, spatial policy

## **Abstract:**

The Mutation Balance project of the Dutch Chambers of Commerce indicates that in 1995 the annual number of firm migrations in the Netherlands was 67,700. This means that 7.9% of all firms registered by the Chambers of Commerce have moved in that year. On average, 180,000 jobs are involved in the migrations process. Since the mid nineteen eighties the firm mobility rate has been growing steadily. Business services are the most mobile sector, followed by wholesale. The greater part of the firm migrations are short distance moves, and most migrant firms are (very) small. The long distance migrations show a negative balance in terms of both firms and employees for the Randstad provinces (North and South Holland, since 1992 also Utrecht is a net loser). The intermediate zone (Flevoland, Gelderland, North Brabant) is a net receiver of migrant firms. The spatial scale of the deconcentration process is growing over time. The report analyses the location push- and pull-factors which are involved in the migration process. Especially space for expansion and accessibility are very important. The labour market acts as a keep-factor. Not only "hard" but also "soft" location factors have to be considered, such as the image of location alternatives. Finally, the importance of spatial policy is discussed. It stands out that the policy objective of reducing car mobility does not go very well together with the preference of migrant firms for accessible motorway locations.



## **Preface:**

The spatial mobility of economic activities has, in the past three or four decades, been a subject of special interest for economic geographers and spatial economists in the Netherlands. This is demonstrated by a number of academic dissertations that were written about the issue, and moreover by well over a hundred research articles and memoranda. Lack of data has always been a problem hampering the research, especially data covering all sectors and regions. This problem was solved when, in the mid-nineteen eighties, the Dutch Chambers of Commerce started with the so-called "Mutation Balance" project, which produces on an annual basis national data about firm formation, firm migration and firm closure. On the basis of these data between 1988 and 1997 we wrote a series of five articles in the Dutch economic journal ESB (*Economisch-Statistische Berichten*) to document and analyse the firm migration process between 1985 and 1995. For this Research Memorandum the last of these articles was translated in English, to make the results available for researchers outside the Netherlands. Some findings from the earlier publications have been included as well, to create a comprehensive view of the firm migration patterns and processes, and its impacts for spatial policy.

**Jaap Kemper and Piet Pellenbarg**



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# INDUSTRIAL MOBILITY IN THE NETHERLANDS

## Introduction

In a small and densely populated country with a growing economy such as the Netherlands it is not surprising to see that spatial conditions for the functioning of firms in many regions are getting oppressive. This is especially true for the Randstad, the economic core area of the country, comprising the urbanized part of the three provinces of North-Holland, South-Holland and Utrecht. Here we also find the four largest urban agglomerations of the Netherlands, viz. Amsterdam, Rotterdam, the Hague and Utrecht (figure 1). Large parts of the country, including the Randstad, witness a growing shortage of space for present and future industrial expansion, and shortcomings in the road infrastructure are demonstrated daily by growing congestions (Ministry of Economic Affairs 1995). Certainly, the national government is taking action. In december 1995 the Ministry of Economic Affairs made the official agreement "Room for Economic Activity" (REA) with the twelve provinces, to enlarge and improve the number and quality of available industrial locations. The Ministry of Transportation and Water Management is going to invest more money in the building of road infrastructure and moreover will reduce project preparation periods from six to four years. This is especially important because in the past long procedures often gave rise to an underuse of available budgets. Improvement of the infrastructure situation is also needed to stay competitive in the European economic space. At the moment the Netherlands is spending a lower than average percentage (0.85%) of its national income on infrastructure (European average 1.18%). And the so-called 24 hours-intensity on the motorways in the Randstad is 20% higher than in the German Ruhr Area and the region Antwerp-Brussels-Ghent (TNO INRO 1997).

Lack of space and traffic congestion in the Randstad are the main driving forces underlying industrial migration, the subject of this article. In the past decade, the number of firm moves in the Netherlands has grown steadily and considerably, and the prevailing trend in the non-local moves is more and more a south- and eastwards shift of firms out of the Randstad. The mobility of firms is greater than is often assumed. In terms of numbers of firms it is not much less important than the (since Birch, 1979) much more debated issue of new firm formation. In the Netherlands, the three components of "economic demography" (i.e. number of new firms, firm moves, and firm closures) actually amount to annual totals of 80,000, 68,000 and 42,000 respectively. These are figures for 1995, from the project "Mutation Balances" from the joint Dutch Chambers of Commerce in the Netherlands. This project delivers, since 1985, national data about firm formation, firm migration and firm closure. On the basis of these data a series of publications has been written to document and analyse the firm migration process in the past ten years (Kemper and Pellenbarg 1988, 1991, 1993, 1995, 1997).



Figure 1

This article presents and analyses the newly published figures on firm migration for the years 1994/1995, and describes the push, pull and keep-factors. We will furthermore try to establish a relationship between the spatial pattern of firm migrations and the (changing) spatial pattern of locational preference of firm managers in the Netherlands. Finally, attention is paid to the related aspects of spatial economic policy.

## A growing number of firm migrations

In the period 1994/1995 the national total number of firm migrations (a term we will use as a synonym for firm moves or industrial migration or industrial mobility) has grown considerably, i.e. with almost 10,000 moves compared to the foregoing two-year period 1992/1993. In the late nineteen eighties and early nineteen nineties the two-yearly growth was only 5,000 and 4,000. Proportionally, the growth of mobility in the two-year periods 1990/91, 1992/93 and 1994/95 11%, 7% and 16.7%. Our earlier supposition (Kemper and Pellenbarg 1995) that the number of firm migrations is related to the cycle of economic rise and decline is supported by these figures.

A considerable part of the firm moves are found in the category "other" (see table 1). This category of moves is dominated by migrating firms in the financial services sector (16,000). Such firms are usually very small, and move rather easily. The size of the group "others" in the 1994/1995 Mutation Balance has grown markedly since earlier countings, as a consequence of a new classification of industrial sectors (SBI'93). In the new classification, the sector financial management is kept out of the sector commercial services as much as possible.

Table 1: Industrial mobility in the Netherlands 1995

EIM8795 Industry	Moving firms			Migration factor		total
	number 1994	number 1995	growth-% 1994-95	short distance	long distance	
Manufacturing	3700	3950	6.8	5.8	1.6	7.4
Building	3620	4250	17.4	6.6	1.1	7.7
Wholesale	9300	9800	5.4	7.4	2.7	10.1
Retail	6280	6550	4.3	3.6	.6	4.2
Commercial services a)	16800	18400	9.5	7.6	2.4	10.0
Personal services b)	5300	5750	8.5	4.2	.9	5.1
Other c)	18000	19000	5.6	6.3	3.0	9.3
Total	63000	67700	7.5	5.9	1.9	7.9
Total 1993		58000		5.7	1.8	7.4
Total 1991		54000		5.5	1.8	7.3
Total 1989		43000		5.3	1.4	6.7
Total 1987		36000		4.9	1.2	6.1

a) Transportation, storage, communication, banking and insurance, business services.

b) Hotels/restaurants/bars, sports, recreation, house-agents, laundry, hairdressing, beauty-centres etc.

c) mainly financial holdings

There have been more classificatory changes which affect the picture of firm migration

figures by sector. Repair firms were replaced from personal services to retailing, and handy-men from personal services to the building sector, which may well explain the strong growth of mobility (17.4%) in this building sector between 1994 and 1995. Manufacturing industry also witnessed a growth of mobility in 1995 (6.8%). The growth of movement in the retail sector was remarkably low (4.3%), in fact only half of the growth in 1993 (8.6%). It is possible that the uncertainties about the effects of the new shop closing law has led to a more cautious policy of retail dealers, such as a postponement of expansion and/or movement plans.

Just as in preceding years, most of the mobile firms are to be found in the wholesale and commercial service sectors, where the annual percentage of mobile firms (table 1: migration factor/total) has now grown to 10 percent. In retailing and personal service the migration factor is only 4 to 5%. For all sectors together industrial mobility rose from 7.4% in 1993 to 7.9% in 1995. The sectoral pattern of growth and decline of mobility in 1994/1995 is the reverse of that of 1992/1993. Then, in a recession period, the basic economic sectors became less mobile while non-basic sectors still gained in mobility. Now, in an economic growth period, the basic sectors show a growing mobility, while the non-basic sectors show less moves. For the analysis, hereafter, of the spatial pattern of firm migrations, we will concentrate on the interprovincial migration flows in the basic economic sectors of manufacturing, wholesale and commercial services. The total number of interprovincial movements has grown strongly, after the stabilisation in 1992/1993, and now (1995) amounts to 6300. This is less than 10% of all firm moves, demonstrating that firm migration is first of all a local and regional phenomenon, and that only a minority of the migrant firms cover larger distances with their migrations. Still, the long distance migrations are the most interesting ones: they contribute more than other locational decisions to the change of the "economic map" of the country.

### **More firms are leaving the Randstad**

The pattern of interprovincial firm migrations in the Netherlands can be characterized as a flight from the Randstad, and the 1994/1995 figures indicate that this flight is growing in magnitude. The migration deficit (number of emigrating firms minus number of immigrating firms) of the three Randstad provinces together has grown from a yearly average of 433 in 1992/1993 to 517 in 1994/1995 (table 2). Especially the province of North Holland (with Amsterdam) saw a strong growth of the migration deficit. In South Holland (with Rotterdam and The Hague) the deficit dropped slightly. It is remarkable to see how the province of Utrecht now definitely has assumed the status of expulsion region which also characterizes the Randstad as a whole. Until 1991 Utrecht had a migration surplus, but since then it loses more firms than it receives. No doubt this is to be owed to the present shortage of industrial sites in the province.

There are some interesting sectoral variations in the exodus of firms. In the migration flow of manufacturing firms, the deficit of all three Randstad provinces more or less stayed the same since 1992/1993. But in the wholesale sector all three provinces witness a growth of the migration deficit. We see now that Utrecht, for the first time, on balance is losing wholesale

firms. The loss of commercial services is still acceptable in Utrecht, but North Holland faces increasing losses here. For South Holland the situation improved a little, although quite clearly it still loses great numbers of commercial service firms.

Table 2: Industrial migration, net results by province 1988-1995 (2-years average)

E2M8895 provincie	total results				manufacturing			wholesale			commercial services		
	88/89	90/91	92/93	94/95	90/91	92/93	94/95	90/91	92/93	94/95	90/91	92/93	94/95
Groningen	-45	-33	-14	-45	-5	-3	4	-5	-2	-8	-24	-10	-41
Friesland	3	31	38	51	7	3	11	2	11	5	22	24	35
Drenthe	26	20	24	41	3	6	7	2	13	15	16	5	19
Overijssel	-35	8	10	3	-8	8	2	2	9	8	14	-7	-7
Flevoland	66	88	130	136	17	24	10	36	39	44	35	67	82
Gelderland	17	74	69	107	21	-5	13	36	7	41	17	67	53
Utrecht	97	88	-1	-31	4	-2	-5	52	8	-23	33	-7	-3
N-Holland	-51	-119	-79	-172	-33	-38	-38	-76	-58	-75	-10	17	-59
Z-Holland	-152	-289	-353	-314	-40	-36	-32	-79	-78	-91	-170	-239	-191
Zeeland	-10	18	33	14	5	3	-2	2	7	8	12	24	8
N-Brabant	89	115	130	201	29	36	23	23	37	71	64	58	107
Limburg	-5	0	15	10	2	5	7	7	8	5	-8	3	-2

If we look at the destination of the firms leaving the Randstad (table 4), we see how Utrecht loses manufacturing, wholesale and commercial service firms to Gelderland (its eastern neighbour) and Flevoland (to the North of Utrecht; this is the new 12th province of the country, reclaimed from a former inland sea during the nineteen fifties). Wholesale and commercial service firms are also lost, on balance, to the southern neighbour province of North Brabant. (For wholesale, this is a new development, not yet discernible in 1992/1993). But at the same time Utrecht on balance still receives firms from its western neighbours North and South Holland. Taking it all together, the province counts its losses especially in the wholesale sector.

In the province of North Holland we see manufacturing firms leaving in all directions, even the distant southeastern province of Limburg profits by this. Wholesale and commercial service firms mainly move from North Holland to Flevoland and Utrecht, and to a lesser degree also to Gelderland and North Brabant. Compared to 1992/1993 manufacturing firms are now moving less to Flevoland and more to Gelderland. The tendency of wholesale and commercial service firms from North Holland to go to North Brabant is much stronger than in this foregoing period.

Also from South Holland manufacturing firms are moving to all other provinces, but North Brabant, Gelderland and Utrecht show the biggest gains. Flevoland is not wanted too much by South Holland firms, but judging by the balance figures of table 4 there is a clear interest for the more distant north-eastern provinces of Overijssel and Drenthe, especially among commercial service firms. It may be assumed that in this case the attractiveness of the living



climate - a location factor of growing importance - plays an important part. Most of the firms however move to the eastern and southern neighbour provinces of South Holland, viz. Gelderland, Utrecht and North Brabant. The migration deficit for wholesale firms to Utrecht and Gelderland doubled, compared to 1992/1993. Whereas the migration deficit from South Holland to Utrecht for commercial service firms was halved. The deficit with the traditional landing province North Brabant did not grow.

Table 4: Migration of firms, net result in the Randstad 1994/1995 average

Province of destination	E4M9495								
	Utrecht			province of origin Noord-Holland			Zuid-Holland		
	manu fact	whole sale	comm. serv.	manu fact	whole sale	comm. serv.	manu fact	whole sale	comm. serv.
Groningen	0	-1	2	1	2	16	-3	3	4
Friesland	-3	-1	-4	-6	-5	-8	-1	-3	-8
Drenthe	-2	-4	1	-2	-2	-4	-1	-5	-11
Overijssel	-2	0	-3	-3	2	4	-2	-6	-10
Gelderland	-7	-18	-17	-8	-11	-7	-8	-18	-45
Utrecht				-8	-19	-23	-5	-18	-30
N-Holland	9	19	23				2	2	-31
Z-Holland	5	18	30	-2	-2	31			
Zeeland	0	1	-2	-2	3	1	-1	-6	-6
N-Brabant	2	-26	-24	1	-12	-10	-14	-33	-48
Limburg	-3	-1	3	-8	-3	-4	4	-2	1
Total	-5	-23	-3	-38	-75	-59	-32	-91	-191

Figure 2 a/b shows the interprovincial migration flows (balance figures) for industry, wholesale and commercial services together, in the form of a map, both for the periods 1990/1991 and 1994/1995. The outward flow of firms from the three Randstad provinces is clearly discernible, but we also see how the spatial scale of the outward flows has amplified in the short period between both mappings. The biggest migration flows no longer are between the Randstad provinces themselves, but between them and the adjoining provinces to the East and South. And growing numbers of firms are moving over greater distances, such as from the northern part of the Randstad to the southern provinces of North Brabant and Limburg, and vice versa from the southern part of the Randstad to provinces in the North and East. All in all, the periphery of the Netherlands becomes more and more involved in the overflow of economic activity of the national core region, the Randstad. Only the most distant province in the North-east, Groningen, is not (yet?) taking part in this scheme of national economic redistribution.

## **The spatial pattern of firm moves between the other provinces**

For the province of Groningen the firm migration balance developed unfavourably (table 2). On balance, the migration deficit grew from 120 in 1992/1993 to 183 in 1994/1995, especially due to the increased emigration of commercial service firms. Growing losses were counted to Gelderland and North Holland, neither of them immediate neighbours of Groningen!

The reverse of Groningen is North Brabant, where the migration surplus grew from 130 in 1992/1993 to 200 in 1994/1995. Contrary to the preceding period, North Brabant has started to receive greater numbers of wholesale firms and commercial services. In both sectors the surplus has doubled, while the migration surplus for manufacturing declined. One could say that North Brabant is now starting to surmount its long lasting image of The Dutch numberone manufacturing province. Especially the influx of firms from Gelderland, Utrecht and North Holland has grown sharply. Immigration from South Holland slightly declined. This is a remarkable reversal of the pre-existing trends, because until recently North Brabant served especially as an overflow region for South Holland. Now we see that during the period 1994/1995 also an extensive southward stream of firms has started flowing to North Brabant from the more central parts of the Netherlands.

Turning north again, we can observe that the migration surplus of the provinces of Friesland and Drenthe has grown. In these two provinces, immigration and emigration figures are both rising, but the rise of immigration is faster and thus the surplus grows. This is especially true for the commercial service sector. In Friesland, the surplus for wholesale diminished, and the surplus for manufacturing increased. The growth of migration surpluses can be ascribed to North and South Holland.

In the province of Overijssel the immigration and emigration of firms are in balance. There is a small gain of wholesale firms, and a small loss of commercial services. Since 1992/1993 immigration and emigration grew in equal pace. The influx from South Holland increased, but so did the outflow to North Brabant.

The new province of Flevoland has a high migration surplus, but the surplus is not increasing any more. Especially the immigration from its eastern neighbour Gelderland has diminished, and so did the overflow from South Holland. Immigration to Flevoland from North Holland and Utrecht is still growing though.

Gelderland, after falling back a little in the previous period, shows since 1992/1993 a marked growth of the migration surplus. Especially the surplus in wholesale migration, which was very low in 1992/1993, has been restored. The same is true for manufacturing. The migration surplus in commercial services however, after a strong growth in 1992/1993, since then has diminished. The surplus growth is mainly due to immigrations from North and South Holland. Migration from Gelderland to Flevoland is declining, but on the other hand there is a striking growth of migration to North Brabant.

The southwestern province of Zeeland received less firms on balance than before, which is mainly caused by the commercial services and to a lesser degree by manufacturing. Emigration in these sectors grew faster than immigration. There is a less favourable migration balance now with South Holland and Gelderland. Finally Limburg through the years has shown a rather steady migration pattern, without marked migration surpluses or deficits. The

balance of 1994/1995 is a little lower than in 1992/1993, caused by less favourable figures for wholesale and commercial services. There is a growing influx of firms from Utrecht, South Holland, and Gelderland.

## **Employment effects**

Migrant firms usually are (very) small firms. Migration is typical for young firms that have survived the often difficult and hectic starting-up phase and are now entering a growth phase, characterized by accommodation problems. For small firms, unable to expand at their existing site, migration is a usual answer to such accommodation problems. The larger the firm grows, the more difficulties are associated with changing one location for the other, especially the loss of investment in fixed assets. The larger and older firm will therefore often turn to other strategies to accommodate firm growth, for instance the creation of branch plants or a take over of another firm (Pellenbarg 1995).

The employment data for firm migration in the Netherlands do reflect the characteristic of migrant firms as small firms. On average, in the period 1994/1995 a yearly total of 180,000 jobs were involved in the firm migration process, indicating an average size of the migrant firm of 2.8 employees. The interprovincial migrations (6300 in 1995) are responsible for 17,000 transferred jobs, of which we count 3400 in manufacturing, 5800 in the wholesale sector and 7800 in commercial services. Small numbers, but we have to keep in mind that migrant firms are growing firms, so that an exodus of firms for a region means the loss of future growth, and vice versa in the case of a region with a net influx. Measured over longer periods, contribution of the firm migration process for individual regions sometimes has been rather substantial (Pellenbarg 1985).

Just like in foregoing periods, the provinces of South and North Holland are losing the greatest numbers of jobs. Moreover, in South Holland the numbers of jobs that are lost on balance in the firm migration process are increasing steadily, but in North Holland the job loss due to firm migration is lessening in 1994/1995, thanks to a smaller employment loss in manufacturing and commercial service migration (the employment loss in wholesale migration increased). North Brabant is the reverse of North and South Holland, it is the province with the biggest employment gains in the firm migration balance. The migration job surplus in manufacturing was halved, but the job gains due to wholesale and commercial service migrations doubled. The employment balance for Utrecht was not so good. There is still a surplus, but it is decreasing, following the trend of the balance in terms of firm numbers, which already turned negative in recent years. Gelderland, after a negative employment balance in 1992/1993, shows a positive balance again in 1994/1995. This is caused by less emigrating employment in manufacturing, and more employment effects of firm migrations in wholesale and commercial services. Finally Flevoland witnessed a lower employment effect of firm migration in manufacturing and wholesale, Overijssel saw a positive employment effect turn into a (small) negative effect, and Groningen and Friesland have small positive employment effects, especially caused by firm migration in the manufacturing sector.



## Location decisions of migrant firms

In the Netherlands, a great many studies on firm migration have been published in the past two decades (for an overview see Pellenbarg 1985, 1995). From such studies, we receive a clear-cut picture of the driving forces underlying the process of locational change. There is an interplay of so-called *push*-, *keep*- and *pull*-factors, i.e. reasons to *leave* the old location, reasons to *stay* there, and forces that *attract* the firm to another location. Lack of space for expansion is always push-factor number one, and accessibility problems are a good number two. Both factors play the leading part again as pull-factors, but then they are more or less of equal importance. The third key-variable in the explanation of the firm migration process is the labour market, in the sense that the wish to retain its present employees is keep-factor number one for most firms that are facing the necessity of finding a new location. The practical result of this keep-force is that managers always try to minimize the migration distance, so that employees, if possible, can stay working at the firm without the necessity of moving house. Now that the number of double-income households is increasing so much in the Netherlands, this consideration becomes even more important than it was before.

In fact, the identification of push-, pull- and keep-factors only gives a superficial kind of explanation of firm migration processes. In the course of time some firm migration research projects have tried to dig to a deeper level of explanation, taking into consideration how decision processes regarding firm migration develop in more detail, and which constraints have to be met by the decision makers, during these processes. Already in the nineteen seventies Townroe (1973) developed an enlightening model with five successive decision stages, viz. 1) stimulus, 2) problem definition, 3) search, 4) formulation and comparison of alternatives, and 5) choice and action. The choice-stage was further divided into eight subsequent steps. Later, other authors have produced even more complicated models of the location decision making process (see among others Lloyd and Dicken 1977, p. 330). The application of their schemes and models in empirical research is scarce. Recently however Louw gave a good example of a practical application of decision stage models in his PhD thesis about locational choice behaviour of (migrating) large offices in the Netherlands (Louw 1996). His study is of relevance here, since the office sector is more or less corresponding to the commercial service sector, which according to our industrial mobility data is the most mobile sector of the Dutch economy.

Louw divided the decision making process into three phases, viz. an *orientation phase*, a *selection phase* and a *negotiation phase*. This roughly corresponds to the phases 3, 4 and 5 of Townroe. It turns out then, that "spatial factors" (these are geographical position, accessibility, parking possibilities, proximity of facilities & public transport, and quality of the spatial surroundings) play an important part in the first two phases, whereas financial and contractual factors are getting more important in the third phase, when it comes to negotiating a result (table 5). The dominance of spatial factors in the search process is most important for firms that want to own their site and building, and relatively less important in case a firm rents its premises.

Table 5: Factors in the location search process, mentioned by managers (percentage of all factors mentioned, per search phase)

factor	phase			total
	orientation	selection	negotiation	
building factors	15.3	12.3	7.1	11.9
functional factors	19.4	18.4	7.1	16.1
technical factors	3.1	4.2	2.0	3.4
financial factors	12.2	14.2	52.5	22.5
location factors	43.9	36.0	12.1	32.3
other factors	6.1	14.6	19.2	13.8
total	100	100	100	100

Source: Louw 1996

It is quite remarkable that in Louw's study the average number of location factors mentioned per respondent varies considerably from one decision stage to the other : 2.5 for the orientation phase, 6.1 for the selection phase, and 2.5 again for the negotiation phase. Obviously, in the orientation phase the search is of a superficial nature. Managers only pay attention to two things : the number of square meters that are available (rather logical, in view of the importance of expansion space problems as outmigration factor number one) and the price for which the location/building is for sale or rent. In the selection phase a much greater number of factors are considered. Again price is important, but on top of that many spatial factors are now entering the scene : location/situation, accessibility - for car as well as by public transport - parking, and possibilities for flexible use of space. In the third and final phase the negotiations then focus again on one or two key issues, of which the price issue always is predominant. When asked (by Louw, in his interviews) for an ex-post evaluation the managers usually demonstrate satisfaction about the outcome of the negotiations, but in two third of the cases they nevertheless keep the feeling that they've had to compromise. Most of the compromises are about the price and about the parking facilities.

### Hard and soft location factors

Deepening of the insight into location decisions is taking place by studies like those of Townroe and Louw, but also by projects which investigate the influence of so-called "irrational" or emotional factors on the decision process. There is a growing awareness of the fact that location choices are made in situations of interchange between "hard" factors (such as size and price of the premises, accessibility, parking facilities etcetera) on the one hand and "soft" factors (such as recognizability, representativity and "image" of the building and its surroundings) on the other. Halter and Stevens (1993) applied factor analysis on the data obtained by a field survey among 257 office firms, in which a mixture of hard and soft location factors were placed before the office managers, and thus identified five different decision-making types of managers :

1) *stationary* (prefers to locate close to a railway station)

- 2) *visualist* (is looking for a location which is clearly visible)
- 3) *modalist* (no special preference, is looking for a standard building)
- 4) *classicist* (prefers a traditional building in a "stately" surrounding)
- 5) *ambulant* (first demand: the location is accessible by car)

The five types are quite recognizable and, moreover, interesting from a policy point of view, because let alone the modalists, the manager types correspond rather clearly with location types that are more or less wanted in the context of spatial policy. In the Netherlands, the national government devised a policy of reducing car mobility by stimulating firms which attract car traffic (mostly offices) to locate near public transport nodes, especially railway stations. These are the so-called "A-locations"; minor public transport nodes are called B-locations; and "motorway-locations", to be reserved for firms that depend on goods transportation, are referred to as C-locations. The governments' ABC-strategy plays into the hands of the "stationaries", but on the other hand we learn from firm migration studies which differentiate between location types (i.e. Sloterdijk and van Steen 1994) that for the time being, the "ambulants" are the biggest group among the migrant firms. Clearly, practice and policy are rather far apart here. In one of the next paragraphs we will return to the policy issue, also introducing the regional and national scales.

## **Migration pattern and locational preference**

The "image" of cities and regions certainly belongs to the category of "soft" location factors. Nevertheless it can be argued that a manager's subjective impression of the qualities of a location in reality can have a very strong influence on the outcome of the location decision process (Meester and Pellenbarg 1984, Pellenbarg 1985). It is therefore interesting to consider the possible relationship between firm migration patterns such as we described them for the nineteen nineties and the image of cities c.q. regions as it exists in the mind of managers. Data on the subjective preference of Dutch managers concerning locations in the Netherlands are available, from a research project of the faculty of Spatial Sciences of the University of Groningen which has been running since 1983. The latest available image data are for 1993 (Meester 1994) which is close enough to the period of the firm migration data presented here (1994 and 1995) to permit a comparison.

The basis of the measurement of location preferences is an enquiry among a representative sample of 1800 independent Dutch firms with at least ten employees in the sectors of manufacturing, wholesale, transport and commercial services. The managers of these firms were asked to give a valuation of 70 cities, spread evenly about the country, on a five point scale (running from -2 very bad to +2 very good). The enquiry had a response of 40%, and produced an interesting results.

On the one hand the general pattern of locational preference of the Dutch managers in 1993 was still the same as at the time of the first measurement in 1983, viz. a high valuation of the centre of the country (with Utrecht as the absolute top location) and from there a decrease of appreciation in all directions (figure 3a). On the other hand, if we compare the valuations of 1983 and 1993 city by city, we see how the country is cut in two : a western half where the subjective location valuation is decreasing, and an eastern half which is gaining in the

subjective preference of the managers (figure 3b). The decrease of preference is at its highest in the core of the Randstad region (indicated separately on map 3b) where cities like The Hague and Rotterdam are losing more than 10 points on the preference scale (which runs from 0 to 100).

It is not so difficult to interpret this loss as a consequence of the congestion problems and lack of expansion space which we discussed earlier in this article. It is also obvious that generally speaking the spatial pattern of firm migrations as it is shown on figure 2 is concordant with the ups and downs in the preference as shown in figure 3b. In other words: what managers think and say (in the enquiry) more or less corresponds with what they do (in terms of relocation choices). The only exception to this rule is the province of Flevoland, which does attract rather big numbers of relocating firms, but scores not too well in the preference measurement. Flevoland is a location alternative in spite of itself. Too attractive (close to Amsterdam) to avoid it, but obviously not whole-heartedly chosen. This is a case which deserves further research, to shed more light on its contradictory nature.

### **Spatial-economic policy**

Which conclusions for spatial-economic policy can be derived from the structure and development of firm migration processes in the Netherlands as we described and analysed them in the preceding sections? Certainly these processes are not concordant with all existing policy measures. For instance we may conclude that the ABC location policy of the central government is meeting serious difficulties in view of the refusal of the many "ambulant" manager types to be forced to locate at public transport nodes. They continue to prefer highway locations instead, which reflects the importance of accessibility as a push- and pull factor in the migration process. So here policy and reality are in conflict.

At the same time however the strong growth of firm mobility and the amplification of the spatial scale of the outflow of firms from the Randstad very much underline that the central government very rightly installed another measure of spatial economic policy, i.e. the REA-subsidies for improving and enlarging settlement opportunities, especially in the crowded Randstad.

The same is true for the central government's policy to reinforce the road infrastructure which we mentioned at the onset of this article. Both REA and the infrastructure policy seize upon the most important pushfactors in the firm migration process, viz. lack of space and road congestion. It has to be admitted though that the solution of the space and accessibility problems within the Randstad itself is becoming more and more expensive, which raises the question whether or not it is wise to continue the present concentration of economic activity in this crowded core region at any price. Wouldn't it be logical c.q. advantageous to use the ample space for economic growth which is available at a lower price in other regions, for example in the relatively "empty" northern provinces, to accommodate the growth of firms which are in a scrape in the Randstad, instead of continue to create expensive new room for such growth in the Randstad itself?

Recently, the spatial economics section of the Faculty of Economics of the University of Groningen presented a report in which the dilemma of continued concentration of economic

activity in the Randstad versus spread of activity to adjoining regions, especially the North, was made subject of a model calculation (Sijtsma et al 1996). More or less as a surprise, the result of the calculation was that not only the economy of the North of the Netherlands would profit from such a strategy, but that the economy of the Randstad and even the national economy as a whole would benefit as well! The shift of 250,000 jobs of the growth of the most space- and transport-intensive sectors would create a national profit of 22 to 45 milliard Dutch guilders.

For the time being however, the report and its inherent suggestion to let such a shift of activity take place is rejected by the Ministry of Spatial Planning. Following the policy adagium of "regions on their own strength" the Ministry argues that the Randstad should solve its own spatial problems instead of burdening other regions with them. Until the year 2010 there should be enough space in the Randstad to accomodate economic growth, if a certain amount of older industrial sites are revitalised and if more opportunities to build across motorways and underground are developed. The cost of this is accepted.

A restrictive policy as to building in the "Green Heart" of the urban ring in the Randstad and its outer buffer zones is carried on, and only after 2010 a push out to North Brabant, Gelderland or the North is considered (Ministry of Spatial Planning 1996).

In view of the already restricted location capacity and growing traffic congestion in North Brabant and Gelderland, the option of diverting growth to the northern provinces might be more near than is now anticipated. In this context one should realize that it is very difficult to "send" firms in a direction which is at the moment essentially unwanted by them, as demonstrated by the migration maps of figure 2 and the preference map of figure 3a. The prevalent spatial trend in the firm migration process, as we saw, is to the East and South. A substantial stream of firms to the Northeast will only come about if it is somehow triggered by a pilot project or an influential "location leader". One of the most effectful pilots or leaders would be the establishment of a second national airport in Flevoland (figure 1, location marked 3) or in the Markermeer (fig. 1, location 2) between Flevoland and North Holland, combined with a high speed rail link via Groningen to Bremen and Hamburg in northern Germany. The necessity of such a second national airport proves to be more inevitable day by day, and is the result of the very rapid growth of Schiphol Airport (figure 1, location 4) which has come very close now to its spatial and environmental limits. The "psychological agglomeration" which will be excited by a second national airport may be quite substantial, but this aspect is neglected in the present discussion about the location of a second national airport. If we take it into account, the decision about this location becomes of crucial importance for the possibility to influence the eventual spread of economic activities to the Northeast and, at the same time, the reduction of congestion problems in the Randstad. So, as an essential prerequisite for solid decisions about future spatial planning in the Netherlands, a fundamental choice has to be made between either intensifying the economic concentration in the Randstad or alleviating the pressure on the Randstad by a greater spread of economic activity over the country as a whole. In the first case the pressure on the Randstad and its Green Heart, the crowding and the land prices will continue to be high, in favour of the green open space elsewhere in the country. In the second case the Randstad and the Green Heart will be unburdened, but we will see less quiet and space outside the national core area. A new airport to the West of Amsterdam in the North Sea (figure 1, location 1)





fits in the first scenario, a new airport in the Markermeer or Flevoland fits in the second scenario. This second model is the most appropriate one for the future economic development of Flevoland and the Northeastern provinces.

## **Conclusion**

Measured by the progress and spatial extent of the firm migration process in the Netherlands, the spatial pressure in and on the Randstad region is growing steadily. This is demonstrated by the reversal of the migration balance of the province of Utrecht, the growth of the migration surplus in North Brabant and Gelderland, and the slight increase of firm immigration in the northern provinces of Friesland and Drenthe. What we may call the "periphery" of the country has now shrunk to the provinces of Groningen, Zeeland and Limburg (i.e. the three provinces at the greatest distance from the Randstad). Here the firm migration process brings no economic progress (yet). Groningen has a growing deficit on the firm migration balance, and the situation of Limburg nor Zeeland has recently improved. The position of Overijssel is not clear: judged by its distance to the Randstad expulsion area a bigger immigration of firms might be expected here than we actually see in the recorded figures.

The firm migration process is set going by lack of space and congestion problems, but also "soft" location factors and the image of cities and region have a recognizable influence. Seen in that light, it is easily understood why local and regional governments engage with so much enthusiasm in city and region marketing activities.

On the national scale infrastructure and mobility-influencing policies are crucial. The spatial direction and extension of the migration process illustrate the desire of firms to locate at sites along major motorways "behind" the traffic jams, and that means gradually moving further East and South. Only major projects such as the building of a second national airport will enable a (partial) diversion of the migration process to the Northeast.

The Randstad Holland appears like a pressure cooker, in which pressure is rising. The national spatial policy seems to react by stacking stones on its cover. But the lid is clapping loudly, and steam is leaking away, in the form of inhabitants as well as firms, to the provinces of Gelderland and North Brabant. We advocate the creation of a valve along which steam can be blown off in the direction Northeast. A second national airport in Flevoland could be such a valve, relieving pressure on the Randstad. A new airport in front of the North Sea coast will only raise pressure in the Randstad, to the detriment of the national economy.

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Table 3 Interprovincial industrial migration, net result 1994/1995 average (manufacturing + wholesale + commercial services)

E3BS9495 province of origin	migration net result, number of firms province of destination												total (firms)		migration net result employment					
	GR	FR	DR	OV	FL	GE	UT	NH	ZH	ZE	NB	LI	net result	immi gra tion	emi gra tion	total	manu fact	whole sale	comm. serv.	
GR Groningen		-5	-11	1	-2	-8	-2	-19	-3	-1	1	3	-45	138	183	54	77	-15	-8	
FR Friesland	5		1	0	-1	5	7	19	12	2	3	-1	51	158	107	54	79	4	-29	
DR Drenthe	11	-1		0	-1	2	4	7	17	0	2	0	40	180	141	-6	-10	65	-61	
OV Overijssel	-1	0	0		-7	-2	5	-3	17	2	-9	0	3	301	298	-67	31	-151	53	
FL Flevoland	2	1	1	7		-1	28	87	16	1	-4	0	136	330	194	417	65	249	103	
GE Gelderland	8	-5	-2	2	1		42	26	71	4	-31	-9	106	765	659	190	-69	107	152	
UT Utrecht	2	-7	-4	-5	-28	-42		49	53	-1	-48	0	-31	863	893	584	-54	259	379	
NH N-Holland	19	-19	-7	3	-87	-26	-49		27	2	-21	-14	-171	1083	1254	-1131	-192	-779	-160	
ZH Z-Holland	3	-12	-17	-17	-16	-71	-53	-27		-13	-95	3	-313	1017	1329	-1348	-193	-301	-854	
ZE Zeeland	1	-2	0	-2	-1	-4	1	-2	13		7	2	14	103	89	-46	-19	12	-39	
NB N-Brabant	-1	-3	-2	9	4	31	48	21	95	-7		6	201	858	658	1300	345	546	409	
LI Limburg	-3	1	0	0	0	9	0	14	-3	-2	-6		10	215	205	-1	-60	4	55	