Regional Industrial Policy and Foreign Direct Investment in Nordrhein-Westfalen, Germany

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Foreign Direct Investments-Threat or Chance?

Foreign direct investments are not always welcome. Globalization may be a chance or may be a threat. Many countries in the world erect barriers against foreign investments or discriminate foreign companies to protect their domestic markets and their domestic companies from takeovers. Germany with its export-based economy is continously struggling for free market access for direct foreign investments in all countries of the world. The main target of the German Federal Government is to achieve a multilateral rules-based system for direct foreign investments including the following core points:

- Free market access (equal opportunities to start businesses in foreign countries).
- Non-discrimination of foreign companies.
- Legal protection (free transfer of capital and profits, protection against expropriation, conflict mediation).

The European Union is currently trying to achieve a compromise on these questions with the developing countries:

- A limitation on direct investments (without short-term capital transfers).
- Special rules for developing countries (sustainable development, deadlines).
- Confirmation of regulating powers of the host states (environment, social affairs).
- Rules for „investor's behavior". ?

Despite Germany's determination towards globalized markets, even here not every foreign investment is welcome. The largest foreign direct investment that ever occurred in Germany, the takeover of the telecommunications company Mannesmann by the British company Vodafone, was heavily fought by Nordrhein-Westfalen's State Government, however without success.

Butgenerally,foreigninvestmentsin Nordrhein-Westfalen (NRW) are highly prized because they contribute to the creation of employment in a state that is heavily struck by structural change and unemployment. NRW has been open to foreign investments for a long time and treats German branches of foreign companies as domestic companies. This includes that the political instruments to attract foreign investors are, with few exceptions (like marketing offices in foreign countries), the same as to stimulate domestic industry. Therefore, after a brief statistical overview, I will outline the development of industrial policy in NRW before I will depict special activities to encourage foreign direct investments.

The Situation: Statistical Overview

Nordrhein-Westfalen (NRW) is a state of the Federal Republic of Germany. NRW has 18 million inhabitants, that is 22% of Germany's total population. NRW's gross domestic product is 456 billion EURO which is 22.4% of Germany's

GDP and 5.4% of the total GDP of the EU. Thus the GDP of NRW exceeds that of Australia. NRW's economic structure was historically characterized by coal and steel industries, however, due to structural change, the traditional industries have declined. Today, NRW has a wide range of different industries and services, including machinery, chemical industry, automotive, telecommunication etc.

Foreign direct investments to NRW have been worth of 85.7 billion EURO in 1999 which is 30% of the total foreign direct investments to Germany. The most important investors come from:

1. the Netherlands	19.4%
2. USA	18.7%
3. United Kingdom	14.7%
4. Luxembourg	11.8%
5. France	9.7%
6. Switzerland	6.1%
7. Japan	4.7%

67% of the foreign direct investments come from EU countries.

Among foreign companies which have locations in NRW are: Ford Motor Company, General Motors, 3 M, Hewlett-Packard, Procter&Gamble, Warner Brothers, Vodafone, Sammi Steel, Alps Electric, Denon Nippon, Mitsubishi, Fuji, Sony, Toshiba.

Japanese Investments in Duesseldorf: A Tight Regional Cluster

In particular, the state capital Duesseldorf is a stronghold of Japanese investments to Germany. 420 Japanese companies have their locations in Duesseldorf (NRW total : 500), and 5,500 Japanese people are living in Duesseldorf (NRW total : 7,200). These figures indicate that Japanes companies form an extremely tight regional cluster. Duesseldorf is by no means the only location in NRW which is suited for Japanese investments. Koeln, Aachen, Bonn, the whole Ruhr Area (which is roughly ten times as large as Duesseldorf) form attractive locations for foreign direct investments too. However, Japanes investments tend to cluster in an extremely small geographical area. Some spreading of Japanese plants into Duesseldorf's suburban area rather confirm this clustering.

The spatial cluster of Japanese investments is closely related to the emergence of a Japanese cultural and social infrastructure in Duesseldorf. Already in 1964 a Japanese Club was founded in Duesseldorf, 1971 a Japanese school followed which has today 700 students, and in 1983 a Japanese Kindergarten was opened. There is a Japanese Chamber of Commerce and Industry in Duesseldorf, and lots of Japanese-German cultural events and institutions. There is a Japanese Duesseldorf, a Japanese bookstore, two Japanese grocery stores, and several Japanese banks. You find a dozen or so Japanese restaurants in Duesseldorf which serve authentic Japanese cuisine for Japanese and German customers. Most of these activities are even concentrated in a small section of one street in downtown Duesseldorf, the Immermannstrasse.

However, Japanese direct investments to Germany have somewhat declined. Today, as a target country for Japanese investments, Germany is only ranking three in the European Union behind the Netherlands and United Kingdom. Both countries currently boost higher figures in economic growth.

Phases of Industrial Policy in Nordrhein-Westfalen

Industrial policy in Nordrhein-Westfalen developed in five steps. This does not mean that industrial policy was completely changed from step to step but that in each phase new ap-

proaches were added to the instruments that had been implemented in former steps.

Step 1 : Passive, real estate-focused economic development cooperation

For a long time, industrial policy in Nordrhein-Westfalen was very traditional. Economic development cooperation was quite passive in the sense that it was waiting for interested firms to approach them. In this phase, economic development cooperation concentrated on real estate which meant finding sites for industrial locations. Nordrhein-Westfalen's Economic Development Corporation still provides a real estate database for industrial and commercial sites. It was the period when the economy boomed and sites were scarce, not investments. This phase ended with the first economic crisis in the mid-seventies, when especially the steel industry faced a severe crisis and unemployment rose sharply.

Step 2 : Incentive programmes

Triggered by crisis, industrial policy was forced to play a more active role to attract investments and, hence, employment. The first answer to crisis was subsidizing. It was the phase when the Ministry of Economics started its first incentive programmes, e. g. the „ Technologieprogramm Wirtschaft" (technology programme for business). In particular, the programmes gave financial incentives to introduce modern technologies.

Current Incentive Programmes in NRW

These incentive programmes which are targeted both to domestic enterprises and foreign investors (which have the same legal status as domestic enterprises since they have established a firm in Germany) include :

- A business consulting programme.
- A business technology programme.
- A regional economic development programme.
- State-run venture capital and equity capital funds.
- Bank guarantees.
- A rational energy use programme for businesses.

However, the success of this approach was limited. The main problem was that the programmes were not specific enough. In this period, this approach got a popular name to indicate that a lot of public money was wasted : the „ watering-can approach" („ Giesskannenprinzip"). Like a watering-can, these subsidies were also given to firms which not really needed them.

Step 3 : Regionalization of industrial policy

The main problem of the general incentive programmes was that the Duesseldorf-located Ministry did not really know how to spend the money most effectively and efficiently. Another problem was that in the economic regions the different actors-the chambers of commerce and industry, the municipal economic cooperation units, the firms, the universities, the labor unions-competed for the incentives and very often blocked each other's activities. For instance, if the labor union proposed a vocational training center the chamber of commerce and industry would oppose while the chamber would in turn face union resistance if they wanted public money for a technology transfer center.

The model for an entirely new approach to industrial policy to overcome these problems evolved in one region : in the region of Dortmund (in the Ruhr Area) which was severely struck by a crisis of a regional steel company. Shocked by a 50% -cutback of employment by this steel company, the regional actors abandoned their traditions of conflict and were able to find institutional arrangements for mutual co-

operation. Iin particular, they agreed on a two-fold strategy to promote both the second labor market, which was in the interest of the unions, and new technologies, which was demanded by business, and they started a joint-venture of local government and chamber of commerce and industry to start a technology center. This joint-venture technology center eventually spawned a technology-centered business park and is today, almost 20 years after its origin, among Germany's most successful technology centers.

Encouraged by the success of the Dortmund model, in the mid-eighties, the Ministry generalized the approach to a new strategy of industrial policy: the regionalization of industrial policy in Nordrhein-Westfalen. Regionalization comprised of several steps:

The regionalization of industrial policy was so successful that most other German states adopted the approach which was also highly prized by the Commission of the European Union. An evaluation of the programme proved that the approach indeed stimulated cooperation within the regions (Heinze/Voelzkow 1997). Projects could be realized that had been blocked by decades.

Steps of regionalization

1. The state was divided into 16 regions (which usually included several towns and cities and which were roughly identical with the chamber of commerce and industry districts).
2. The regions developed fora for discussion and consensus-building, in particular the regional conferences and working-groups. In any case, not only local governments participated in the regional conferences but also the chambers, the labor unions and a broad range of regional associations, groups and institutions.
3. The regions had to develop „regional development programmes". These regional development programmes usually included an analytical part, a vision for the region's development and a catalogue of projects.
4. The regional actors had to achieve a consensus on the regional development programmes including the lists of projects.
5. The Ministry started to distribute its subsidies according to the agreed projects thus giving a premium and incentive for consensus.

A main instrument of regionalized industrial policy are technology centers. Up to now, in NRW 69 technology centers have been opened which host 1,800 companies and 14,000 employees. The most successful technology centers are affiliated to universities (and are often located on the campus) and are technology-centered.

There are large variations in the degree of success of the technology centers (Sternberg et al. 1996, Sternberg 1996). Some centers-in particular Dortmund and Aachen-are extremely

Services provided by technology centers

- Service-oriented welcome packages for firms.
- Bundling of innovative activities.
- Technological expertise.
- Synergy effects.
- Business operation assistance.
- Professional infrastructure.
- Cooperation with universities and research institutes.
- Lab, office and production space.
- Market proximity.
- Attractive work environment.
- A good business adress.

successful and have greatly expanded, mostly by moving the mature firms into adjacent technology parks (the Dortmund technology center hosts about 1,000 employess, while in the adjacent technology park almost 4,000 employees are working). On the other hand, there are many smaller centers which do not operate very successfully, in particular if the mix of firms is too broad and if the centers are not affiliated to a university or research institute.

Step 4 : Branch-specific incentive programmes

Regionalization had the advantage that the knowledge of the regional actors could be used for directing the flow of public funds. However, it failed to cope with a new problem: the decline of whole industrial branches, in particular the textile industry and the construction industry. Therefore, in the mid-nineties, the Ministry of Economics started several new initiatives which are focused on certain industrial branches.

Current branch-focused Industrial Policies in NRW

- Future initiative for the construction industry (Zukunftsinitiative Bauwirtschaft-Z-IBAU).
- Future initiative for the textile industry (Zukunftsinitiative Textilindustrie-ZITEX).
- Skilled workers for information technologies (Fachkraefte fuer IT-Technologien-FIT).
- Joint initiative for automotive suppliers (Verbundinitiative Automobilzulieferer).
- Bio-and GeneTech initiative in NRW (Bio-Gen Tech NRW).

A branch-focused programme may include a lot of different activities, like common marketing projects, technology-transfer projects, research & development programmes, consulting programmes, vocational training programmes etc. Usually the Ministry of Economics, sometimes other ministries too, the relevant industrial associations, research institutes and consultants are involved in these programmes.

In some cases-in particular in case of the BioGeneTech initiative-the approach to concentrate on a specific branch is combined with the regionalization approach, resulting in branch-specific activities in selected regions.

Step 5 : Business type-focused programmes

The latest approach, which was introduced in the late nineties, are programmes which are focused on specific business types. So far, NRW has developed two of such programmes: the initiative for small and medium-sized enterprises MOVE and the start-up initiative GO!

„Mittelstands-Offensive MOVE"-small and medium sized enterprises initiative

- Installation of a service hotline with 3 -days-service for contacts between businesses and public administration.
- Technology transfer activities.
- Venture capital funds, business angel networks, turn-around funds.
- A campaign to help enterprises accessing foreign markets.

„Gründungs-Offensive GO ! -start-up initiative

- Stimulation of start-ups at schools and universities.
- An advertising campaign for start-ups.
- Consulting for start-ups.
- Business plan contests and evaluations.
- Seed and venture capital funds.
- A cooperation exchange.
- A business succession exchange.
- Trade fair support.

Today, industrial policy in Nordrhein-Westfalen combines instruments of all five Steps: Of

course, there are still services to find sites; there are also several general incentive programmes; there are technology-centered programmes and there are programmes for certain business types and most of these activities rely on regionalized infrastructures.

Activities of the Economic Development Corporation Nordrhein-Westfalen to Attract Foreign Investments

Some years ago, the Ministry of Economics of NRW has founded a corporation called „Gesellschaft fur Wirtschaftsfoerderung Nordrhein-Westfalen (GFW)" or „Economic Development Corporation". The GFW's website in German and English is: http://www. gfw-nrw. de and the Japanese version is: http://www. nrw. co. jp. The GFW has offices also in Tokyo, in Korea, in China and in Singapore.

The GFW's core activities are:

- A real estate database for industrial and commercial sites with a site selection service.
- Market and business sector analyses.
- Consulting services.
- Consulting on the various incentive programmes.
- Support during the realization of investment projects.

Additional acitivities include

- Theme trips to NRW.
- Marketing acitivities in foreign countries, particularly in Japan (a press conference and seminar in fall 1999, a film on Japanese cable tv, articles in the Nikkei Business newspaper).
- The publication of the German Tax Report.
- Support in crisis situations.

The GFW is a reaction to the globalization of the economy. Before the GFW was founded as a state agency, economic development cooperation was a municipal affair. However, no single city in NRW is able to act on the global market, hence, the state government decided to start a state-wide agency as a public corporation of private law.

Combined Approaches to Attract Foreign Investments: the BioTech Example

The BioTech and GeneTech technology is considered a „shooting star" among the most promising industrial branches. The BioTech industry is a very young industry in the phase of the „take-off" with a lot of start-ups and extremely high growing rates. BioTech research and development is highly globalized, quite certainly with U. S. universities, research institutes and innovative firms in the lead (Ernst&Young 1998).

There are three types of foreign investments to be found in the BioTech industry:

1. Large foreign firms open up German branches on a large scale (with more than 100 employees).
2. Small foreign firms open up small German branches with just a few employees.
3. Researchers from foreign countries start new companies in Germany (e. g. researchers who have done research work in the USA and who want to start an enterprise in Europe).

There are a few investments of the first type in Germany with 100 thru 200 jobs created, but most of the investments in BioTech industry are of type 2 or type 3 with less than 10 employees at the time of the start-up.

For such small investments, the situation is particularly difficult:

- They need lab, production and office space which is ready for occupancy.
- They need a lot of public permits to oper-

ate business (in particular regarding safety matters).

- They need information about patents and patent law.
- They need research cooperation.
- They need access to public research funds.
- They need personnel.

Typically, new industries develop in regional clusters around research centers. The German Federal Government has supported the development of such clusters with the BioRegio contest, a competition of regions. All over Germany, 16 BioRegions formed and participated in the contest. One of three winning regions. the Rheinland region (around Koeln, Duesseldorf-the other two winning regions were Muenchen and Heidelberg), is located in NRW. In the meantime, in NRW at least two other regions emerged where BioTech is currently developed (Marl and Bielefeld).

The support which is badly needed by foreign investors is provided by specialized infrastructures within the regions (Eichener et al. 2000). These infrastructures include

- technology transfer agencies,
- research cooperation,
- general business consulting,
- patent consulting,
- seed and venture capital funds,
- technology centers,
- marketing activities etc.

The regions have developed quite different strategies to provide these services. Our evaluation of the BioRegio Contest proved that some are more and others are less successful:

- One strategy is to rely on existing institutions for economic development cooperation, consulting, financing etc and to link these institutions into a BioTech-centered network (one of the regions following this strategy calls itsself „a virtual enterprise").

  The other strategy is to create new, technology-centered institutions as one-stop-locations. This strategy is much more successful than the first strategy because investors need one single agency to pilot them through the extremely complicated process of establishing a business rather than being handed from one agency to another with all the interface problems.
- Some of the regional infrastructures are provided by public institutions, others are established as private-law corporations. The latter strategy is more successful, because the institutions can act more flexible and are more success-oriented than public authorities. In one region, the agency was founded as a stock corporation, and the state does not give subsidies for operating the agency but just invested in the stocks (together with regional banks and existing firms).
- The regional agencies must be strong, they must be sufficiently staffed and they must have a highly qualified (that means: well-paid) personality at the top who has access to the highest ranks of local and state government. In one reported case, it was possible for the head of such an agency to call a minister and to achieve that an investor was given an operation permit within 24 hours by fax (which usually required several weeks to months).

A brief conclusion of our evaluation of the BioRegio Contest was „policy matters". Policy matters because new technologies need new types of regional infrastructures and policy alone can provide these infrastructures. But these infrastructures will be successful only if the right strategies are chosen and not those which require less political strength.

Theoretical Explanation

Japanese investments to Germany form an extremely close spatial cluster in one single city, in Duesseldorf. The regional cluster pattern, however, is not exclusively typical for foreign investments, it is also typical for young industries. All over Europe, young industries like biotechnology, innovative information technology sectors (like artificial intelligence) or air and space industries form close regional clusters. These clusters of innovative industries and research facilities have been called "islands of innovation" which, across the continent, form an "archipelago Europe" (Hilpert 1995). A recent comparative study of four European countries confirmed that local production systems based on small firms have played a crucial role for structural change and economic growth (Crouch et al. 2001). In North America, a similar pattern can be found. BioTech firms concentrate on few locations on the East Coast, in California, and, with less importance, Seattle and Chicago. The most prominent example for regional clustering of innovative technologies is still Silicon Valley (Saxenian 1990, 1994).

It is puzzling that, in the era of globalization, exactly the most innovative technologies, where globalization is most advanced, form close spatial clusters on a regional or even local level. Researchers from all over the world collaborate in transnational projects, communicate daily by e-mail and other media, publish in international journals, meet regularly on worldwide conferences, start-ups with a handful of employees supply customers on all continents.

On the same time, these scientists and enterprises reside in close proximity in village-like technology centers or business parks. Some of these high-tech villages (e. g. the BioRegio of Heidelberg) even have a "stammtisch" (a table in a bar where customers regularly meet-a typical element of traditional village-life in Germany). For Sabel (1989 : 9), the formation or revitalization of regional economies indeed "strongly resembles the nineteeth-century centres of flexible specialization".

Obviously, globalization and localism go hand in hand, are even complementary. Scholars have found many names for the phenomenon of spatial clustering: "regional production cluster" and "industrial districts" (Piore/Sabel 1984), "new industrial spaces" (Scott 1988, Scott/Storper 1992), "regional worlds of production" (Storper 1997), "learning" or "intelligent regions" (Morgan 1997, Maskell/Malmberg 1999, Cooke/Morgan 1990), "innovative milieux" (Aydalot 1986) or "local production systems" (Crouch et al. 2001).

There are several theoretical approaches to explain the "re-emergence of regional economies" (Sabel 1989). The theory of flexible specialization (Piore/Sabel 1984, Sabel 1989) emphasizes that on volatile markets small firms can be highly competetive because they are able to adapt quickly to small market niches. However, the higher the degree of specialization the more are these firms dependent on complementary goods which are provided by the firms and institutions which form the regional production cluster. The California School of external economies (Storper 1997, Scott 1999) points out that enterprises have transaction cost advantages if there are embedded in a region where externalities are produced. The theory of innovative milieux (Ayadalot/Keeble 1988, Camagni 1991, Maillat 1995) conceptualizes regional economies as sets of networks which provide the local actors with common goods like cooperation, knowledge and other resources which are nec-

essary conditions for innovation. The French regulation theory (Dunford / Kafkalas 1992, Moulaert 1996) emphasizes the role of infrastructures and institutional settings provided by local regulatory regimes.

The common denominator of these theoretical approaches is that certain industries are dependent on externalities which are provided on a regional level. The theories agree that these externalities include "hard" factors like access to highly specialized labor markets and, even more important, "soft factors" like informal information exchange or mutual trust and which have been called "industrial atmosphere" (Pyke, Becattini ad Sengenberger 1990). Generally speaking, firms which belong to regional clusters are more competetive than firms of the same branch which are located in a diaspora.

The reason for clustering is

- that certain industries require resources (including human resources and knowledge), infrastructures, supplies, services and partnerships
- and that these resources are externalities of businesses and institutions which belong to one supply chain
- and that many of these resources rely on rather informal, personal contact
- and that these highly specialized resources, infrastructures, supplies, services and partnerships can not be found on the global or national markets but evolve interdependently in technological districts.

If all four conditions are true than a structure of regional clusters will emerge. Otherwise, if only one condition fails, locations spread over the country.

In brief: proximity matters. Some of the reasons of regional clustering-agglomeration and proximity-had already been pointed out by classical regional economics. Furthermore, spillovers of knowledge and high-skilled experts are resulting from high concentrations of technology (in firms or universities) and trigger a spreading-out of business activities including start-ups and joint ventures (Beise 1998). Innovative industries require a particular high degree of communication and cooperation. In spite of global communication technologies, much of cooperation, exchange and knowledge transfer is based on informal, personal contact. The probability of such contacts directly depends on concentration („critical mass"), proximity and opportunities for informal meetings („crystallization points"). It is nothing else than these conditions which has been named „incubator atmosphere".

Usually such incubators develop around universities or research facilities or around existing companies. Technology centers are the attempt to create or reinforce such incubators artificially (Sternberg et al. 1996). In Germany, the Federal Ministry of Education, Science, Research and Technology directly reacted to the theoretical and empirical concept of „technological districts" with the BioRegio contest. This contest required that regions defined themselves as biotechnological districts, develop common infrastructures and incubators. As a result, within Germany 17 regions defined themselves als BioRegios. The most successful regions received special funding to reinforce their regional profiles.

An interesting question is: What are the conditions of regional success? Saxenian's (1990, 1994) study on two regions which started simultanously under similar conditions gives some hints. The regions are California's Silicon Valley and route 128 near Boston, Massachusetts. In both regions, the development started in the 1930 ties, in both regions, the nucleus was a first-rank university (Stanford and M. I. T.),

and both regions were supplied with technology-focused contracts of the US Ministry of Defense.

However, in the 1980 ties, when information technology business started mushrooming, Silicon Valley clearly passed route 128, in terms of jobs created and of numbers of fast-growing enterprises. From her intervies, Saxenian derives some hypothesises to explain the differences. Apart from some hypotheses which emphasize differences in culture and mentality between East Coast and West Coast, she names two factors refering to regional clustering:

1. Spatial proximity: In Silicon Valley proximity exceeds that of New England so that the frequency of personal contacts was greater.
2. Associations: In Silicon Valley, the inventors and starters founded assocations which facilities information and resource exchanges.

Obviously, only certain industries require regional clustering, and obviously, the importance of regional clustering diminishes with time. E. g. automobile industry in Germany started in technological districts. Daimler-Benz in Stuttgart was a nucleus for a technological cluster of hundred of suppliers and many infrastructures which developed in physical proximity. Today, there is absolutely no regional clustering of automotive industry anymore. Automobile plants which were opened up in the 1960 ties, like Opel in Bochum, or in the 1990 ties (like Opel in Eisenach, Volkswagen in Mosel or Daimler-Benz in Bremen) have very few ties into the surrounding regions. Mature industries do not need regional infrastructures and resources because they have developed institutions and to provide all these supplies. The big automobile companies have their own research facilities and vocational training centers, they don't need universities anymore. This explains why empirical research shows that some regional production systems gradually erode while others pop up at the same time (Crouch et al. 2001).

Regional clustering is rather typical for young industries, in particular the innovative industries like biotechnology or, 20 years ago, information technology. These young industries do not have specialized research facilities or training centers or marketing agencies, they need these infrastructures within spatial proximity.

Now, we have reached the similarities to foreign direct investment. Foreign investors often are in a situation comparable to that of a start-up. They also have special requirements, in particular if they are not familiar with the structures in the country where they invest. If a Dutch company invests in Germany it does not have any special requirements because structures in the Netherlands and in Germany are rather similar. The language is easy to learn, the legal systems are not very different, the business techniques are not identical but rather close. A Dutch executive would not even have problems to send his or her children to a German school, a spouse would not have problems to find a job. However, if a company invests in an „exotic"country they have special requirements comparable to the special requirements of young industries.

„Exotic" means: a language barrier, different legal structures, different culture, different business habits, different management styles.

For Japanese companies, Germany was quite certainly „exotic" in this sense, and for German investors in Japan, Japan still is somewhat „exotic". What do investors need in such an „exotic" environment:

- They need specialized consultants serving as bridges between both cultures.
- They need specialized lawyers who are fa-

miliar with both legal systems.

- They need associations to organize information and resource exchange.
- They need infrastructures for their private lifes, for their spouses and families like cultural centers, schools, leisure time facilities.

Duesseldorf was the very region in Germany (maybe in all Europe) to provide these infrastructures, and hence, Japanese investments formed a close cluster in Duesseldorf. It ist not quite clear what the nucleus for Japanese investors was (maybe a unique combination of an attractive city, an airport, an attractive business environment, and-maybe-a catalyst) but quite certainly Duesseldorf took the chance and developed a German-Japanese infrastructure. Once started, the process became self-reinforcing: A certain number of foreign investments stimulates the development of an infrastructure, and in turn the infrastructure attracts further investments.

The problem is that a critical mass is required to start such a self-reinforcing process. Sometimes, it is mere chance that a regional cluster develops around a nucleus like Silicon Valley around Stanford university and Hewlett-Packard. On the other hand, politics comes into play. By political decisions, regional infrastructures can be created so that business can develop before it has passed the critical mass threshold. Technology centers and biotech regions are examples of such policies. Certainly, it is very difficult to establish a technological district on a blank meadow. Certainly, the chances of success increase with the endogenous potentials which can already be found in the region. The steps of Nordrhein-Westfalen's industrial policy demonstrate who policy gradually reacted to the findings of regional economy or, more probably, to negative and positive experiences.

Nowadays, Europe is not "exotic" to Japanese investors anymore. Today, the relevance of regional infrastructeres is diminishing. The result is, as the statistical figures indicate, that Japanese investments are spreading over several European countries and regions.

If our reasoning is right foreign companies wishing to invest in Japan also have special requirements for infrastructures, and they will form regional clusters whereever in Japan such infrastructures will emerge. This opens space for industrial policy. If government decides to attract foreign investments it might be a good idea to look for a nucleus and to create an infrastructure of "bridge services" around this nucleus. The primary objective must be to get a critical mass of foreign investors at one location to make it attractive for others to join the cluster. According to our reasoning, providing cluster-focused infrastructures should be are more successful approach of industrial policy than giving subsidies.

But theory also says that after the initial phase of establishing bridgeheads and adapting to the new culture, the importance of regional clusters will eventually diminish. However, for Japanese investors in Europe, this process took 20 years, an Duesseldorf still is a stronghold of Japanese investments in Europe, and obviously still provides an attractive environment for Japanese businesses.

Conclusions

Industrial policy has changed greatly during the last three decades in Nordrhein-Westfalen, and so have the policies to attract foreign direct investments. Already in the early seventies, the traditional passive approach has been replaced by an active role of the state to attract and to

support investors. The traditional incentive programmes, which suffered from the „watering-can approach", have been focused on regions, on technologies and branches and, recently, on specific business types.

And the state has changed its role, too. Of course, financial incentives still play an important role to attract foreign investors, particularly large-scale investments in traditional industries like opening a new automotive plant or any other large production site. The BioTech example shows that innovative industries need other, more intricate supports and services than sheer money. They need piloting, cooperation, consulting, technology and personnel transfer.

Foreign investors have similar needs. They also require infrastructures, services, resources and an "atmosphere" or "milieu" which can be provided in regional settings only. The Japanese-German infrastructure in Duesseldorf is an excellent example that regional clusters can attract foreign investments, since Duesseldorf still hosts 84% of all Japanese companies in Nordrhein-Westfalen.

In Nordrhein-Westfalen, the state (to be exact: the Ministry of Economics) has accepted this challenge and has taken over a role of a moderator of networks and in particular of networks within a regional framework. The results that can be seen already indicate that this new role appears to be more successful than the old understanding of the state as a „big spender"who gives money but otherwise keeps itsself far away from the economy.

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