

Promoting industrial change in structurally disfavoured regions
– The case of the “Ruhr Valley” in Germany –
with special emphasis on the current restructuring plan of the
city of Dortmund

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Outline	page
Background and description of the problem	3
Economic policy answers	5
Experience and conclusions:	10
General findings:	10
Experience in the Ruhr valley	10
A best-practice example: The restructuring plan of the city of Dortmund	12
Lessons from Dortmund:	18
Literature	19

Diagrams

Diagram 1 Policy instruments in NRW since 2004	7
Diagram 2: Overview of foresight elements in RSP in NRW.....	9
Diagram 3: Elements of a regional Balanced Scorecard	10
Diagram 4: Vision: future-oriented sustainable job growth in Dortmund	14
Diagram 5: Vision: Developing Dortmund by 2010 into an economically strong city worth living in.....	15
Diagram 6: Satisfaction with economic factor conditions: Survey of Dortmund inhabitants	16
Diagram 7: Progress indicators for Dortmund 1998 to 2003.....	17

Background and description of the problem

North Rhine-Westphalia (NRW) is one of the 16 "*Länder*" (federal states) of the Federal Republic of Germany. NRW has over 18 million inhabitants and its GDP ranks 17th in global comparison. However, the industrial heart of NRW has beaten for over 100 years in the Ruhr area.

Coal resources were the basis for a unique industrialisation process which started in the middle of the 19th century. At the beginning of this process, coal-mining was the driving force for economic progress and the reason for the emergence and establishment of the energy-intensive steel and iron production industries: In 1880, 80,000 people were employed in coal-mining, in 1920 already 500,000. Between 1871 and 1905 the population increased from 720,000 to 2.6 million people. The economic importance of coal-mining and steel production increased further until the late 1950's. Many supply industries emerged, especially in coal chemistry and industrial energy production. Over 2.2 million people worked in these core industries in the golden era of coal and steel (the 1950's). This brought a previously unknown prosperity to the Ruhr valley. On the other hand, other sectors and industries, which could not benefit from any proximity to coal and steel, avoided the Ruhr area. It was too difficult and too expensive to recruit personnel.

However, during the 1950's the first mines already started to shut down and this indicated the imminent end of golden economic times. The tapping of new coal resources in other parts of the world was taking place under much better conditions. This was the beginning of the decline of coal-mining and, since the mid 1970's, also of the steel industry in the Ruhr valley. The competitiveness of coal-mining in the Ruhr valley decreased dramatically as a result of bad mining conditions (coal had to be cut from deep under the surface) as well as price and wage disadvantages in the iron and steel sectors. High labour productivity or improved productivity through the use of new technologies and materials could not compensate for these disadvantages. At the same time, new scientific knowledge and technical progress opened up new opportunities to generate and produce energy (water, nuclear power, oil and gas). These developments reduced industry's dependence on the exploitation of coal.

This structural weakness in the economy of the Ruhr valley had been concealed in the restructuring process after the Second World War through the investment support law of 1952. This law protected the coal and steel industries by means of price controls on imported coal. Hence the price of the German coal was artificially reduced to below world market prices. This impeded the search for industrial alternatives and preserved the existing problematic imbalance towards the coal and steel industries.

In the 1960's, the decreasing importance of coal for the energy industry came more and more to the fore. There was a shift in enterprises' decisions on where to locate. As a consequence, many basic industries moved to other locations. The main reason for the decline of the coal industry was the triumphal march of oil, the price of which dropped dramatically as a result of new extraction techniques and decreasing transport costs. The outcome was that oil substituted coal as the main input factor on the energy market. Employment in coal-mining decreased by 50% in just 10 years from about 500,000 in 1957 to 228,000 in 1967.

In the 1970's, the economic decline in the steel and coal region gathered pace. The mono-structured alignment of industry towards coal and steel no longer guaranteed wealth and jobs but instead caused one of the biggest structural crises in German history. The most prominent feature was the emergence of mass unemployment such as had never before been experienced.

The problematic situation was aggravated by the oil crises of 1974 and 1979/1980 which had a direct and disastrous impact on the cost structure of industry and its competitiveness. This reinforced the structural crisis in the Ruhr valley.

Short résumé: The industrial restructuring phase began in the mid 1960's and is still not completed.

Economic policy answers

Regional structural policy confronted these challenges with economic programmes which changed over the course of time in their thematic focus. In the first phase of decline, policy measures aimed primarily at diminishing the social costs of structural change (1960's and early 1970's). The positive result of these monetary transfers was that they prevented people from slipping from unemployment into poverty. On the other hand, this policy was expensive and not conducive to introducing proactive structural change or to building up new industrial structures.

The late 1960's also saw the start of a new structural policy directed at the consistent support of structural change. The so-called "Ruhr Development Programme", launched in 1968, aimed at the comprehensive construction and expansion of infrastructure, especially in the area of education and training, research and human capital. Deficiencies were also detected in the public transport system as well as in culture and leisure. The Ruhr area had meanwhile evolved into an economic region with 5 million people. The modernisation of infrastructure during the 1970's provided the basis for new industrial sectors and services, especially through the creation and expansion of secondary schools and the foundation of new universities. The political intention was to put "know-how factories" alongside existing industrial core competencies. These measures should allow "know-how intensive" production in the future, in order to substitute and compensate job losses in the labour-intensive coal and steel industries.

The oil price crises of 1973 and 1978 illuminated the strong dependency of the economy on oil and gave at first glance the impression that a re-launch of coal-mining in the Ruhr area could be efficient despite the unfavourable geological conditions. In fact in 1977, the government and the electric power industry signed an agreement in which the electric power industry agreed to use German coal in its power stations. This contract was stocked up in 1980 and extended until 1995. The resulting additional cost of the agreement for the electric industry was financed through an extra charge on the electricity bill of the end consumers. However, the fall in prices of oil and raw materials from 1983 onwards and the devaluation of the dollar exposed the assumption of a possible revival of efficient coal-mining in the German Ruhr valley as an expensive delusion. The coal subsidies could hardly be financed

and resulted in an accelerated closedown of coal mines and capacity reduction later on. Hence in 1987, only 117,000 people were still employed in coal-mining.

In addition, steel production had also decreased rapidly since the mid 1970's since the state did not subsidise these industries. The only public help had been investment credit to steel enterprises between 1983 and 1985. More important were the Technology Programmes launched from 1979 onwards to accompany industrial structural change. The objective of these programmes was to provide incentives for R&D projects, especially to technology-oriented start-ups and medium-sized firms, and to develop existing endogenous potential. The so-called "Ruhr Action Programme" (1980 - 1984), with a budget of 3.5 million Euros, focused on small and medium-sized enterprises, the service sector and the improvement of education and training as well as research. In 1987, the government launched the so-called "Future Initiative for the Coal and Steel Region" (ZIM), the philosophy of which was to regionalise structural policy in order to mobilise and promote existing economic potential. Instead of trying to manage structural change through political initiatives (top-down approach), the new political strategy aimed at supporting economic development from the regional base (bottom-up) and at supporting private initiatives and public private partnerships. The follow-up programme of 1989, entitled "Future Initiatives in the Regions" (ZIN), continued this regionalisation process.

In the early 1990's, a phase commenced which concentrated on policy-supported education and training measures, the foundation of new firms and the support of entrepreneurship. This policy change aimed at meeting enterprises' needs for qualified personnel. At the same time, the last remaining infrastructure bottlenecks were removed with the establishment of technology centres and business incubators. This supply-oriented policy was realised by the programme entitled "Emscher Park International Building Exhibition" (IBA project) that embraced the construction of 17 technology centres and the renovation of 3000 historical buildings. Between 1989 and 1999, architectural, urban development, social and ecological measures were financed at 120 locations in the Ruhr area with a volume of almost 2 billion Euros of public funds. At the same time, NRW's Ministry of Economics supported R&D projects by innovative small and medium-sized enterprises, contributing 50% funding. By co-financing industrial research projects, the public authorities hoped to stimulate the

development of new products and services which enterprises would otherwise not risk without a financial incentive. The aim was for enterprises to gather new innovation power and increase their competitiveness in the process. The calculation was that this should lead to new and sustainable jobs which are technology-driven and know-how intensive. From 1989 onwards, this restructuring process also received financial support from the European Union. The European Union implemented its own structural policy instruments to promote regions characterised by declining industrial development (Objective 2 programmes e.g. RESIDER and RECHAR).

Since the beginning of the new millennium, structural policy has seen a new shift in focus. With the principle intention of “strengthening strengths”, NRW's scarce financial resources are today directed at a regionally focused innovation policy which in the first instance promotes and supports competence clusters. Competence clusters are co-operation relationships with a regional or sectoral focus between enterprises, university departments, research laboratories and production-oriented service organisations which cultivate intensive interaction. The support of fruitful co-operation between business and science in already existing fields of industrial competence is the central policy target. This was also one of the most urgent policy recommendations made by Michael Porter, who asks policy makers to concentrate on the support of already existing strengths and experience.

With the assistance of the Roland Berger consulting company, the federal state of NRW identified a total of 12 promising and potentially successful competence clusters in the Ruhr Area.¹ These clusters are supported by means of the following instruments:

Diagram 1 Policy instruments in NRW since 2004

Instruments in NRW:	Problems in NRW
Business start-up promotion	Lack of new entrepreneurs
Support for education/training	Personnel recruitment
Research and development support	R&D expenditure too low (public and private)
Export promotion	Difficulties in foreign markets
Location marketing	Demand for industrial real estate
Infrastructure development	
Financial support for investment	Scarce public financial resources
Lobbying in Berlin and Brussels (EU)	Problems with legislation in/from Berlin and/or Brussels

¹ Roland Berger (2001)

The development of economic policy over the last two decades as described above immediately reveals a surprising finding: In a time of globalising markets, there is a tendency to focus on and strengthen existing regional strengths. This is only at first glance contradictory. The generation of additional spill-overs occurs through proximity. This can mean the professional proximity of players with the same or related fields of competence (independent of their geographical proximity) or proximity in the sense of local geographical nearness. Efficient networking in particular often functions well on the basis of regular informal meetings. Hence, local geographical proximity facilitates information exchange and reduces transport costs as well as improving the productivity, effectiveness and efficiency of clusters with a manufacturing chain along the value added chain.

Hence the targeted support of clusters in NRW could be based on an established regionalisation process at political level through the ZIN initiatives in the late 1980's. This prepared the ground for something like a regional identity and the opportunity for a successful regionalised structural policy (RSP). There are some striking features which characterise a promising regionalised structural policy which is oriented at the future and not based on the past. The foresight methodology is an efficient tool for the organisation of future-oriented structural change (see Diagram 2, page 9).

Diagram 2: Overview of foresight elements in RSP in NRW

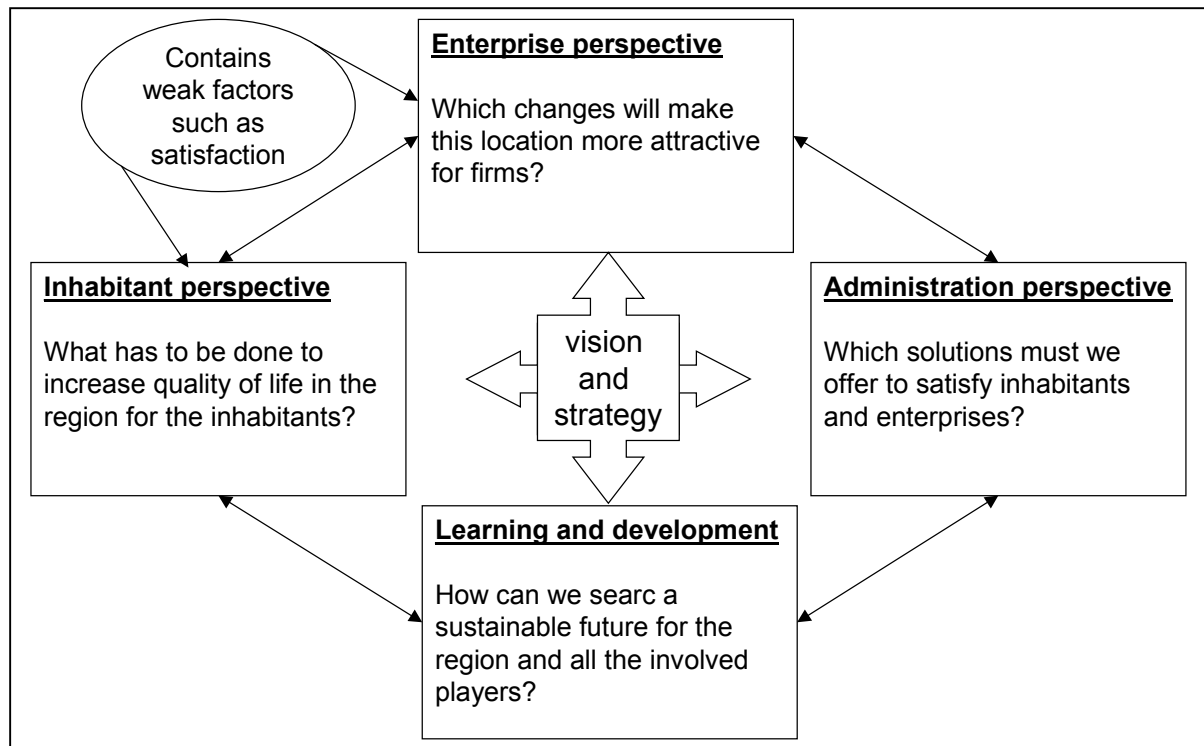
	Strengths	Weaknesses	Opportunities	Threats
Regionalisation	<ul style="list-style-type: none"> with the ZIN regions, a regional layer below Länder level was established 	<ul style="list-style-type: none"> randomised regional definition weak regional identification 	<ul style="list-style-type: none"> > 10 years experience in regionalisation ZIN regions as starting point for more adequate regional definition 	<ul style="list-style-type: none"> intra-regional conflicts damage the process
Anticipation	<ul style="list-style-type: none"> not relevant as anticipation was not an element within RSP 	<ul style="list-style-type: none"> concrete actions/projects may not meet regional needs 	<ul style="list-style-type: none"> not relevant as anticipation was not an element within RSP 	<ul style="list-style-type: none"> decisions do not gain in quality → this will be perceived by the actors through weak results → erosion of process
Participation	<ul style="list-style-type: none"> new forms of active participation introduced by RSP rather broad partnership 	<ul style="list-style-type: none"> no firms, no citizens! de facto political pressure from the Land on the regions to participate 	<ul style="list-style-type: none"> > 10 years experience with participative approaches 	<ul style="list-style-type: none"> exclusion of firms and citizens reduces "relevance" of the exercise also: limited awareness and visibility of the exercise
Networks	<ul style="list-style-type: none"> new forms of networks were established new types of interaction emerged 	<ul style="list-style-type: none"> rather low frequency of meetings latent lines of conflict between the partners 	<ul style="list-style-type: none"> even under weak framework conditions good results (new and intensified dialogue) were yielded 	<ul style="list-style-type: none"> the whole approach may fall dormant in certain regions high degree of frustration for those motivated
Vision building	<ul style="list-style-type: none"> conduction of regional socio-economic SWOT analysis elaboration of regional development plans 	<ul style="list-style-type: none"> weak up-dating of regional analysis plans were pre-determined by policy strategies of the Land 	<ul style="list-style-type: none"> > 10 years experience to be exploited 	<ul style="list-style-type: none"> lack of "shared" vision leads to deficits in decision making ("wrong" projects, inadequate bundle of measures etc.)
Action	<ul style="list-style-type: none"> RSP's objective was to improve present day policy decisions 	<ul style="list-style-type: none"> plans were pre-determined by policy strategies of the Land 	<ul style="list-style-type: none"> identified weakness of RSP in that respect is the main driver for developing new and more adequate policy concepts 	<ul style="list-style-type: none"> wrong projects inadequate conceptions

Source: Guth, Michael (2002)

Based on these findings, a restructuring strategy at regional level must have an integral focus. An excellent instrument can be the development of a coherent Balanced Scorecard for Regions,² which embraces the following levels:

² This concept is based on a modified Balanced Scorecard approach for enterprises of Kaplan/Norton (1996)

Diagram 3: Elements of a regional Balanced Scorecard



Source: Fleig, Florian (2002)

Experience and conclusions:

General findings:

1. Increased competition between regions shows the necessity for focused regional development approaches
2. The success of regional development programmes depends very much on the efficient control of its implementation and the impact made by the projects
3. The control of regional development must imply the measurement of weak factors as well, as cities and local governments have multiple targets
4. Internet-based surveys can be a new and efficient instrument for the representative measurement of weak factors

Experience in the Ruhr valley

5. From looking back to future orientation (1): old industrial regions which suffer from a decline in previously predominant economic activities in the region have to prepare themselves for the needs of the knowledge society in a global economy: Economic prosperity increasingly depends on the regions' capacity to organise learning processes successfully.

6. From looking back to future orientation (2): Take political decisions and design measures in order to improve structural conditions and not (only) in order to obtain welfare effects.
7. Recognise structural deficiencies, do not ignore them!
8. Do not overestimate positive developments that can be traced back to external events, the impact of which is short term, e.g.
 - economic in-house improvements because of favourable shifts in currency exchange rates and/or oil prices
 - or improved economic in-house competitiveness because of political imbalances in competing countries or regions (war, revolution, oil prices,, etc.)
9. Try to identify “relative industrial thematic strengths” in your regional economic portfolio:
 - Sectors (e.g. metal production, textiles,...)
 - Products (mobile telephones, textile machines,...)
 - Experience (managing restructuring projects, just-in-time production , ...)
10. Concentrate your financial resources on the most promising fields of competence → with absolute or comparative advantages
11. Identify and fill infrastructure gaps (technology centres, university laboratories, research centres, transport infrastructure, public infrastructure, etc.)
12. Promote and support qualification-building measures at the same time
13. Give priority to major projects of structural importance
14. Implement competition procedures for your scarce financial resources: Make sure to address the best! No political picking of persons and/or firms and institutions
15. Try to intensify regional co-operation: Work out a Regional Balanced Scorecard; this may also imply a decentralisation of power (subsidiarity principle)
16. → Tip: Vision building is a process! Organise regional conferences with local key players: Work out a vision for the region in an open dialogue with all relevant players and institutions “that have a say”. This consensus helps the political decision makers in their role as a mediator of structural change. Transform this vision into a local/regional development plan with concrete milestones.
17. Talking about future and necessary changes may imply treading on the toes of local/regional authorities - you will need to convince them

A best-practice example: The restructuring plan of the city of Dortmund

This competence field approach also characterises the regional development concept of the city of Dortmund. Dortmund, a former centre of coal-mining and steel production, typically represents the structural change in the so-called *Ruhrgebiet*, as described before. This structural change caused substantial job losses in the city. However, in 1999 new technology-oriented firms rarely existed when the city of Dortmund, with the help of Thyssen Krupp and McKinsey consultants, developed a strategic vision for the city of Dortmund. The so-called “Dortmund Project“ is an excellent example of a successful combination of the cluster approach with a Balanced Scorecard Concept. The Dortmund Project was based on the results of an extended SWOT analysis that worked out strengths and weaknesses, opportunities and threats. In formulating the strategy, the key regional players focused on Dortmund's identified strengths:

- Dortmund is Germany's No. 1 IT training location
(over 4.500 Information Technology students)
- The driving innovation force in Dortmund is the software sector with over 650 firms
- Dortmund is a top location for micronics technology in Europe
- Dortmund is a centre of competence for logistics in Germany
- The economic driving force in Dortmund are SMEs
- Dortmund has extraordinary potential in terms of commercial site availability

The defined vision was: “Create a city worth living in with sustainable new jobs in future sectors!” This vision can be summarised as follows:

Vision for Dortmund 2010

→ The New Dortmund

Action fields

Future Sectors
Software & IT, Logistics
Micronics

People
Training, Qualification,
Recruiting of human labour

Event City Dortmund

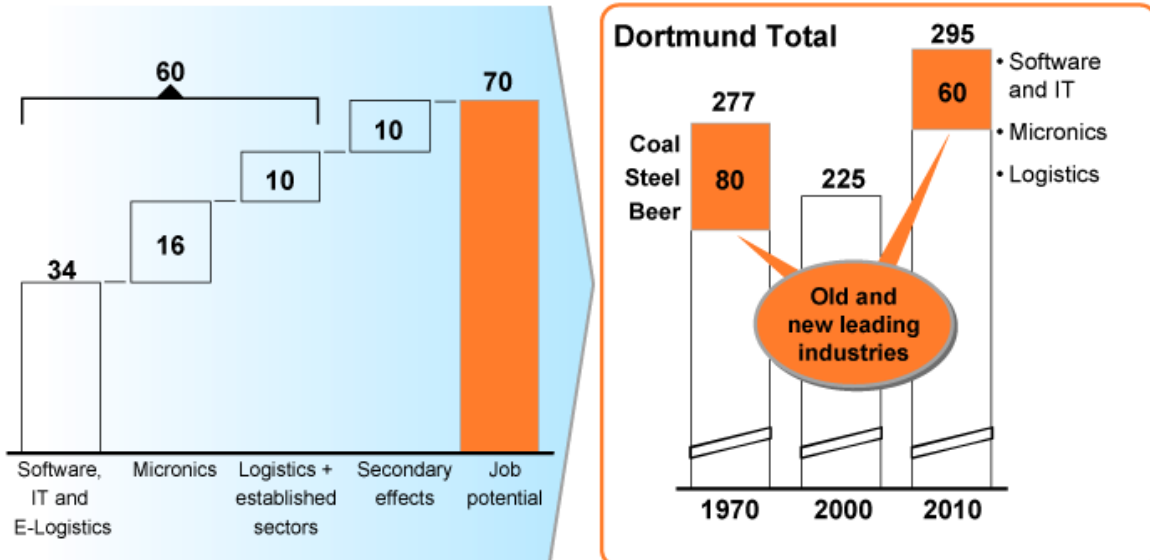
Living, Shopping
Sports and Leisure



The vision appears very ambitious: Through focused investment and actions, the strategy aims at creating 70,000 new jobs by 2010! In the identified future sectors of Information Technology, micronics and logistics, 60,000 new jobs are to be created. These industries have been identified as the new leading industries to substitute the coal, steel and beer industries that created jobs and wealth in the last century. An additional 10,000 jobs are expected in other sectors (diagram 4).

Diagram 4: Vision: future-oriented sustainable job growth in Dortmund

Over 70,000 new jobs created by 2010



To achieve this goal, the Dortmund Project focuses on a coherent strategy that integrates all societal forces: A dynamic network between business, science, politics as well as sectoral associations and local initiatives. Concrete activities range from the development of new industrial real estate to demand-driven vocational training measures and start-up competitions. Some of these projects are supported financially by the federal state of NRW. The Balanced Scorecard for Dortmund with its main goal of “70,000 new and sustainable jobs” is broken down into five sub-visions (see Diagram 5, page 15):

Diagram 5: Vision: Developing Dortmund by 2010 into an economically strong city worth living in

Sub-visions	Measures / goals
Sub-vision 1 Develop Dortmund into a location for future sectors Focus „Information Technology“, Micronics, Logistics	Develop Dortmund into a high-quality location for enterprises Set up a service-oriented administration that supports national and international firms in their business settlement projects Facilitate innovation through practice-oriented support of know-how transfer between firms and the scientific community (universities, R&D laboratories) Develop practice-oriented and future-oriented training measures for employees and management
Sub-vision 2 Develop Dortmund into a location that supports and cares about existing firms	Launch and organise growth initiatives rewarding the best growth concepts and their implementation; yearly competition for existing regional firms
Sub-vision 3 Develop Dortmund into an innovative science location	Foster the development of internationally oriented university courses and disciplines Set up new science and research centres Organise science conferences that aim at know-how exchange and co-operation between universities, science and research centres and local enterprises
Sub-vision 4 Develop new jobs	Create 70,000 new jobs by 2010, of which 34,000 in IT sectors, e-commerce and m-commerce 16,000 jobs in Micronics and Micro-electronics 10,000 jobs in already established sectors, especially logistics 10,000 jobs as a result of secondary effects
Sub-vision 5 Create a high quality of life	Establish an attractive living environment with a sufficient volume of housing Create a special culture and leisure landscape Protect existing and develop more natural resources (parks, zoos, woods, lakes, etc.) Connect places of work, living and leisure through an efficient traffic system

The remarkable aspect of this approach is the explicit aim of improving the soft factor “Quality of Life” as an integral part of the Balanced Scorecard and the regional development strategy. Soft factors are of major importance when it comes to attracting qualified personnel.

The analysis in Diagram 7, page 16 shows that the most important field “employment market” is worse compared to other regions in the eyes of Dortmund's inhabitants. On the other hand, other economic factors seem to be quite favourable for Dortmund.

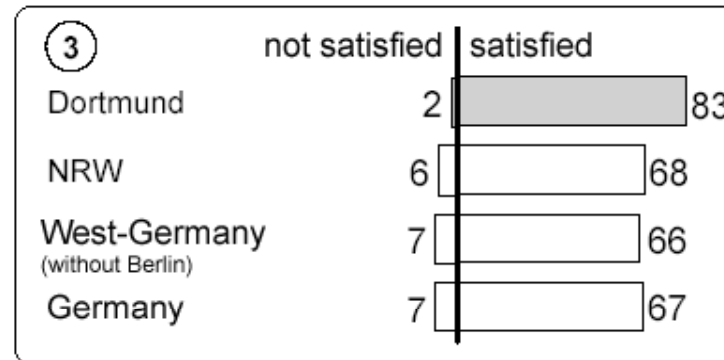
Diagram 7: Satisfaction with economic factor conditions: Survey of Dortmund inhabitants

○ Place of importance (of 12 factors in total)

Good labour market



Supply of shopping possibilities



Low cost of living



Good traffic system



Source: Florian Weig (2002)

After almost five years of implementation of the “Dortmund Project”, the first results are quite promising (see Diagram 9, page 17). Nevertheless, the number of new jobs created is still lagging behind the target figures. The number of employees rose by 9,000. Hence there is still a long way to go to achieve the 70,000 new jobs planned by 2010.

Diagram 9: Progress indicators for Dortmund 1998 to 2003

Progress indicators for Dortmund	2003	2002	2001	2000	1999	1998
Inhabitants (per 31.12.)	589,212	590,831	589,240	588,994	590,213	591,733
Employees in Dortmund	1)	276,500	277,000	275,200	265,300	267,400
agriculture (in %)	1)	0,5	0,6	0,6	0,6	0,6
production sector (%)	1)	22,4	19,0	20,7	21,6	24,2
service sector (%)	1)	77,1	80,4	78,7	77,9	75,3
Commercial enterprises (number 31.12.)	42,455	40,211	38,269	36,554	35,509	34,886
Trade tax (payers)	1)	5,695	5,152	5,222	6,041	6,148
New office construction (in m ²)	37,000	54,000	50,000	52,000	50,000	24,000
Yearly rented office space (in m ²)	64,000	57,000	40,000	60,000	56,000	40,000
Students at University of Dortmund (per winter term)	25,560	24,839	24,999	24,613	24,648	24,576
Students at Dortmund University of Applied Sciences (per winter term)	9,390	9,392	9,047	8,636	8,640	8,625

1) not available; Source: Economic reports of the city of Dortmund 2002/2003 and 2003/2004, LDS

There are other positive effects: The decline in the population experienced in Dortmund up until the late 1990's has stopped. A gentle but permanent increase started four years ago. This population increase goes hand in hand with a significant increase in the number of enterprises and the size of the workforce. Since 1999, the number of enterprises has risen from 35,000 to over 42,000, creating 9,000 new jobs. The potential of well-qualified personnel is considerable, in particular the number of students at the University of Applied Sciences has risen significantly since 1999. This is the qualified workforce of tomorrow.

Lessons from Dortmund:

1. You need a clear view of your local strengths and weaknesses: SWOT analysis
2. You must create a vision for your region that is supported by all its key players: Politicians, entrepreneurs, representatives of the culture and leisure sector (Balanced Scorecard Principle)
3. Create an understandable break-down of this vision for all involved agencies, administratives, etc.
4. You must install a project office that co-ordinates all activities and has direct links to local authorities
5. You must plan a convincing marketing strategy that addresses partners from outside but also the people in the region: Create a spirit of optimism and rebirth!
6. You need money! The process outlined above is a promising restructuring strategy which has been proved in practice: The implementation of this strategy costs money: In the case of Dortmund, 70 million Euros of public funds up until 2010

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