

ARTICLES

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**THE TREUHANDANSTALT IN
INTERREGIONAL COMPETITION**

Abstract: In Germany business promotion is pursued within vertical and horizontal nets of regional competition. The main competitors are business promotion agencies and business promotion offices, including *Treuhand (Treuhandanstalt)* or BvS. In eastern Germany oligopolistic market forms of horizontal regional competition in business promotion prevail. A model of vertical competition between the *Treuhand*, a town, and a private firm has been constructed to explain real estate price formation. In a two region model of fiscal regional competition in a federation, the regions apply different fiscal policies in order to maximise regional income. Fiscal policy of the federal government does influence the income positions of the regions. The *Treuhandanstalt* can be interpreted as a federal business promotion measure of deficit spending.

Key words: regional competition, new German states, business promotion, the *Treuhandanstalt*

1. PROBLEM

Because of the impacts of German unification and the integration of Eastern European states into mainstream European economic relations a radically new pattern of regional competition has emerged in the middle of Europe. However, the structure, the processes and the results of this regional competition are still not fully understood. It is therefore very difficult to forecast the developments and the results of regional competitiveness in Germany. Moreover, this formation of competition is unique in the sense that it stems from: the transformation of a socialist economy, the unification of Germany and integration into the EU, the

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structural changes in Germany, the development of new instruments of competition.

This paper concentrates on three sets of problems. First, new features of regional competition in the new federal states are described. Second, the role of the *Treuhand* is depicted empirically and in the light of microeconomic competition models. Finally, some general conclusions on regional competition in the new German states are drawn based on microeconomic and macroeconomic competition models.

2. FEATURES OF REGIONAL COMPETITION IN GERMANY

2.1. General characteristics

Regional competition has a microeconomic aspect (figure 1). Individual administrative units, firms, and households in a region may compete with economic units of other regions. On the other hand, the economic subjects of one region may act as a single collective competitor to other regions. Besides this kind of horizontal competition, vertical competition becomes a relevant factor, if these regions are part of either a national economy or an economic union such as the EU. Two types of vertical relations exist. Competition may take place between the small region and the higher ranking government units. Moreover, vertical competition prevails between these groups of higher ranking governments. The features of regional competition are microeconomic or macroeconomic, regionally and nationally orientated, isolated among competitors or dependent on several competitors (Buhr and Friedrich, 1978). The nature of this competition can be described in detail by examining the characteristics of the regional competitors, their instruments and goals, and the competition rules and relations.

Normally, this kind of competition is dealt with in a given set of institutional conditions and rules of competition. In the process of German unification it was necessary to form a broad range of competitors and to develop some rule of competition. The decision on the profile and the number of the new states to be established was especially important, because it determined the nature and the number of actors in regional competition. In a short period of time trade unions and entrepreneurial associations, as well as political parties were formed, and basic rules of competition were formulated, e.g. rules for intergovernmental fiscal relations. This paper will focus on those rules prevalent after unification. In most cases the German constitutional rules and EU rules were adopted. Most laws effective in the western states became integral elements of the all-German law. On

this background the more standard regional competition situations can be addressed. In tracing which strategies are chosen to influence regional investment decisions in favour of the competitors we refer mainly to business promotion activities and economic policy measures.

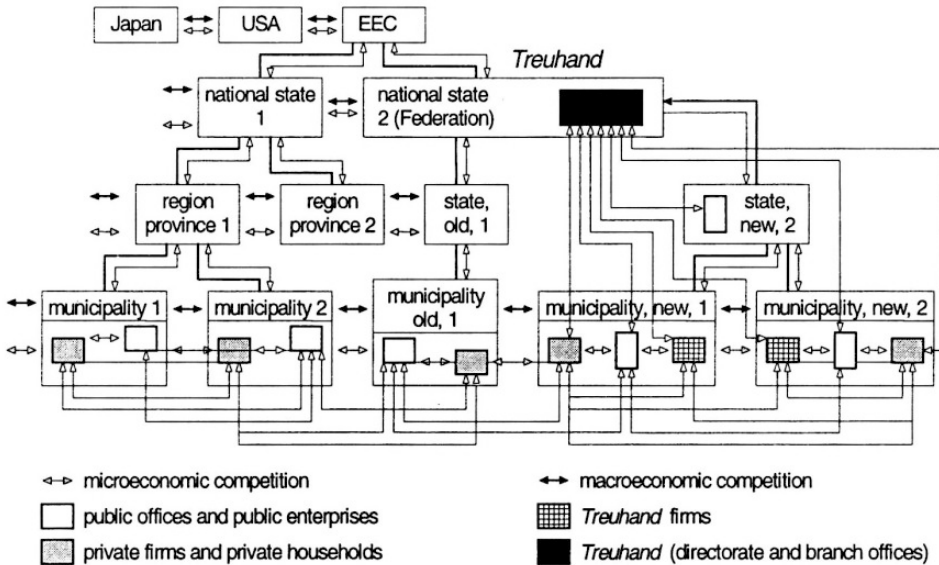


Fig. 1. Important horizontal and vertical relations of competition among governmental units and Treuhand

Competitors might be identified as the regions themselves or as their administrative units, firms or households, respectively groups formed among them. The instruments of horizontal competition include: purchasing procedures, instruments of delivery such as service time, real estate, location and the provision of infrastructure, financial parameters of action such as credits, tax rate variations, local or general expenditures. The instruments for vertical competition include: political support, consideration in planning, debt and tax measures.

Microeconomic competitive relations include: exchange relations and rules of competition among firms or other economic units. Political support, capital markets, and monetary transfers among groups of economic units are critical elements in the context of macroeconomic competitive relations.

Among the goals of regional competition we find goals of individual economic units such as maximisation of turnover, profit, output or utility. In a macroeconomic context, improvement of the inhabitants' welfare in the region,

social product, consumption, income, public production revenues or the power to influence planning and decision-making processes comprise a singular goal.

A competitive region consists of a group of neighbouring economic units whose relations with each other are less conflict-loaden than their relations with economic units of other regions. Sometimes members of the group act as competitors in favour of other group members. Such members can be individual economic units, e.g. development agencies or public authorities such as towns, counties, municipalities, states, etc.

Among the plethora of forms and aspects of regional competition, this study concentrates on business promotion and competition by fiscal policy in relation to the *Treuhand* and its successor institution the BvS (Federal Institution for Special Tasks Relating to Reunification).

2.2. Business promotion in the western states

With respect to business promotion the development offices or companies of towns and counties in the western part of Germany can be identified as competitors. They represent the towns and counties or states also categorised as 'regional competitors'. Roughly 3,500 business promotion offices are involved in the business of offering sites to industrial, service, handicraft firms and to public offices. The main purpose of these offices is to promote establishments, movements, and expansions.

The enquirers in the industrial location markets are seldom large enterprises. The sum of their relocations and new locations is rather minimal. The motives of the enquirers are manifold, such as the lack of land and manpower, locational preferences, transport costs, distances to markets, etc. The existing body of literature contains a wide range of works on this issue (Brede, 1971).

The settlement of industrial firms has been more common in assisted areas (Bundesministerium für Arbeit und Sozialordnung, 1982; Federal Ministry for Construction and Regional Policy, 1991). In the past, the southern parts of Germany, particularly Bavaria, attracted most settlements, whereas closings concentrated on Central-West-Germany.

In addition to the market conditions (factor markets, product markets, etc.) and the available infrastructure the firms' demand for a site is drawn into various districts by the suppliers' types and leeway of action. The outcome of the decision, whether a municipality will join the competition, depends on other factors such as the existence of external factors, the shape of the public budget, and business promotion measures. Generally, municipalities of a similar category act as

suppliers in market segments. Districts having leeways of action similar to municipalities are allowed to assume the role of suppliers in market segments.

The appearance of enquirers and the presence of a sufficiently wide leeway of action on part of the suppliers cannot per se guarantee the participation of potential suppliers in the ring of competition. An involvement is possible only when a settlement is deemed useful. The following indicators for the 'usefulness' of business promotion are in use: securing and creating jobs, improving the local economy's stability, increasing tax receipts, improving income of the residents, attracting growth industries, and the difference between additional receipts and additional expenditure in the communal budget.¹

Only a limited number of the respondents are unimpeded in their wish to establish a firm. The list of reasons for rejection of a settlement contains: massive dangers of environmental pollution, high communal investment expenditures, one-sided alignment of the economic structure, possible damage to local enterprises, scarcity of real estate, difficult access to loans, full or partial lack of state grants, and moreover, co-operation (arrangements) with other communes.

The number of enquirers and suppliers active in the industrial location market depends on the following factors:

- the number of municipalities which are classified into certain categories;
- the spatial distribution of these municipalities;
- the objectives of the municipalities;
- the state of the present sites of enquirers;
- the number of sites hitherto industrialised;
- the kind of industrial sector;
- the enquirers' locational demands;
- and thus their above mentioned 'profit estimates'.

Corresponding to the weight of these factors the number of suppliers will vary from 'quasi market segment' to 'quasi market'.

Normally, a limited number of suppliers can be expected. Under particular circumstances, however, a large number of suppliers is also possible. The competitors are well known by the communal suppliers or fairly familiar to them. They are mainly located in the immediate environs of the respondent. The intensity of competition in other federal states and in foreign countries increases significantly with the population level of districts. On part of the suppliers highly attractive positions are rather infrequent. The major reasons for fairly good

¹ Additional motives for business promotion attracting attention are improvement of the chances of survival by the communal reform, support of the efforts to attain an elevated ranking for federal state development plans, or the necessity of hindering migration, given that the neighbouring district or location are development areas.

competitive positions were federal government or federal state credit or grants as well as tax breaks.²

The following sequence of parameters of action for communes and districts can be noted: (1) investment grants, (2) attractive alienation of land, (3) special development of infrastructure, (4) help with credit (including help with debt servicing), (5) creation of living space, (6) guarantees, (7) other measures, (8) public sales orders, (9) deferment of payment, (10) reduced tax rates, (11) reduced fees and charges.

With respect to market behaviour, i.e. the negotiation tactic confronting the firm which seeks a new location, the patterns of reaction to the measures of other suppliers are aimed – apart from scattered projects – at the attitude of the leading negotiators. The behaviour of the suppliers can be autonomous or oligopolistic. Autonomous behaviour has to be expected because of difficulties in the formation of coalitions among communal competitors could emerge for a close co-operation.³ Coalitions between firms and communes are rarely subjected to limitations unless the federal state planning caters either for a location of a given type of industry or the floor space requirement is rather great.

2.3. Business promotion activities of communes in the new states

Shortly after the unification of Germany the institutional pattern of business promotion similar to that operative in the western federal states was introduced in the new states (Lindemann, 1992). Local authorities, counties and towns in particular, established approximately 300 business promotion offices of public law and business promotion agencies of private law. These institutions were created within a time span of nine months. They started with small staff, often supported by counties or towns in the western states. In the meantime, however, the new promotion offices in eastern Germany have attained an office size (e.g. 7 posts on the average) comparable to those in the western states. Their manpower is generally financed through support programs of the federal labour administrations. Other financial means come from federal special grants for infrastructural

² Other considerable factors were guarantees, promotion of frontier land, help with freight, but mainly geographic standpoints, e.g. value of spare time, position to capital of the federal state, natural conditions.

³ This is due to: the danger of dependence on neighbouring communes, the fears of the communes to lose their independence, the danger stemming from falling behind in communal growth, the fear of external effects in case the new firm settles in a neighbouring commune, the lack of compensation options, the wish not to lose commuters, legal difficulties for compensation, the ban on 'gratuity at pleasure' (since, in legal terms, relinquishing a location does not represent a service in return), politically varied casting of decision-making committees in the rival communes, sharp competition in other spheres, a relative drop in income, large distance between the communes.

development or from their owners, i. e. counties, towns, savings banks, other public banks, chambers of commerce, and guilds of handicrafts. Only a handful of them have a budget of one million DM or more. Although in comparison to their competitors in the western states they are institutionally weaker, they display a broad range of activities and competitive actions.

As is the case in the western states, the offices in the East are interested in the promotion of industries, handicraft, service firms, trade firms, and public offices. With respect to the promotion of firms the competitors concentrate on the settlement of firms and the avoidance of closing downs. Resettlements and expansions of existing firms are of minor importance. Further goals are to attract investments, to improve infrastructure, to support existing firms, and to stabilise employment and income. Locational planning and the management of land reservation are given comparatively low priority in the East. Goals which play a greater role in the western states, such as improvement of sector structures and the export base, and increased revenues accruing to the owners' budget, are of marginal importance in the East. The qualification of the labour force, however, is actively pursued. Generally, the activities of competitive promotion are heavily linked to consulting and the arrangement of public credits and investment subsidies. A special activity relates to the sale of property which is subject to restitution claims – a promotional measure which cannot be found in other parts of Western Europe. Advertisement is one of the most important activities, as is the arrangement and the promotion of jobs financed by the federal labour administration. Other major business promotion measures are the participation in planning with respect to location and traffic, the sale of land, consulting on administrative procedures, participation in trade fairs, and the development of industrial areas and technology parks. During the recent years activities of the offices in the western and eastern states become more and more similar.

A majority of institutions concerned with business promotion consider themselves active in a competitive arena. From their standpoint, they compete primarily with similar institutions in the new states, specifically in neighbouring counties, but also with business promotion offices in the western states. The behaviour of the competitors is partly autonomous and partly oligopolistic. Some units say that they do not react to the offers of their competitors, whereas other business promotion agencies stress that the actions of their competitors significantly influences their own behaviour. Little competition is expected to come from Eastern Europe or other EU-countries. Generally, units show competitive behaviour on a horizontal level, whereas the vertical dimension is dominated by forms of co-operation between states, counties and towns. There is not much knowledge about the competitive structures with respect to business promotion of different industries. However, because of the distribution of competitors, oligopolistic structures of competition can frequently be noted. In all

cases business promotion institutions in the new states are still in the process of learning about their competitive role and about the competitive relations.

The competitors have been rather successful. Approximately 2,000 firms have been established through activities of these institutions. On the average each county has erected seven industrial areas.

The settlement of economic units is also supported by other institutions, mainly state development firms and so-called 'land firms' (Lindemann, 1993). State development firms exist in Brandenburg, in Thüringen, in Saxony-Anhalt, and in Saxony. They are active in the development of infrastructure, urban and village renewal, project planning, marketing of land, and the establishment of larger firms. They also work closely with the *Treuhand*. Mecklenburg-Vorpommern develops a corporation for housing and town development with similar tasks. Land firms now exist in all of the new states. They are used in the areas of land policy, the management of state-owned real estate, and the development of industrial and technology parks.

3. THE TREUHAND AND THE BvS

3.1. Characteristics of the *Treuhand*

Of great importance for the competitive position of the new states was the *Treuhand* which can be seen as a business promotion instrument. The *Treuhand* took part in almost all activities concerning business promotion. To be sure, in the first place the *Treuhand* had to privatise the firms it holds.⁴ However, it also had to ensure the competitiveness of firms, secure employment, facilitate structural adjustment, restructure enterprises, protect the public budget, and support the accumulation of capital. Because property owned by centrally commanded state firms, state firms operative in agriculture and forestry, the military, the *Stasi* (communist secret service), and other socialist organisations was transferred to the federal government the *Treuhand* controlled a substantive share of property in the new federal states.

The *Treuhand*, even when it did not want to, fulfilled a central function regarding all economic policies and measures aimed at business promotion. Above all, it was entrusted with indirect business promotion measures and thereby

⁴ Gesetz zur Privatisierung und Reorganisation des volkseigenen Vermögens, Treuhandgesetz, 17.6.1990, Gbl. DDR, Teil I, Nr. 33, 22.6.1990, § 2, p. 301, Satzung der Treuhand, 18.7.1990, Gbl. DDR, Teil I, Nr. 46, 3.8.1990, § 2, § 3, p. 809.

formed the largest active business promotion institution in the new federal states implementing direct measures. With respect to the transformation process the establishment of the *Treuhand* represents an indirect measure of business promotion. Its dramatic institutional development since 1990 (table 1) is marked by seven phases: the founding, conversion, reorganisation, expansion, consolidation, privatisation, restructuring (Friedrich and Göldner, 1991; Friedrich and Lindemann, 1993) and the contract management phase by the BvS after liquidation of *Treuhand*. The direct business promotion measures adjusted the restructuring and transformation of the steadily growing number of firms.

Table 1. Factors influencing the development of the *Treuhand*

- on-going changes in the functions and activities of business promotions;
- on-going changes in the legal basis through new laws, statutes, decrees, and the treaty of unification;
- on-going internal organisational adoptions;
- staffing which underwent sweeping changes;
- on-going political interventions by parliaments, governments as well as political parties, entrepreneurial associations, trade unions, local authorities, district governments and federal ministries;
- steady involvement of new actors such as the anti-monopoly agency, the EU, new owners, states governments, federal ministries, towns, and associations;
- on-going adjustments to the changing legal and economic environment with varying possibilities of promotion, e.g. joint-venture laws, introduction of competition, options for land sales, currency reform, property restitution, other laws facilitating investments.

These direct and indirect measures were primarily influenced by actual political needs and the pressure of actors. During the first six phases the case by case promotion could not be as specific as the promotion by western development agencies. This was mainly due to the lack of support from other institutions. After the introduction of a market economy in Eastern Germany, the *Treuhand* was responsible for giving the public sector a decentralised democratic form and for accelerating privatisation partly.

3.2. The *Treuhand's* relation to regional competition for settlement in a town

In the past, the *Treuhand* was deeply involved in specific business promotion measures. It was therefore an important factor in the regional competition for settlement of firms and public offices (figure 1). Not only did the *Treuhand*

support its own firms competing with western firms, it also ensured that real estates became used as locations and new economic activities took place. The *Treuhand* sold property to towns and business promotion institutions. This property could then be used to attract new investors either by selling or leasing it in the framework of industrial areas, industrial parks or technology centres. In cases where the *Treuhand* offered property or firms to both the potential investors and to a promotion agency, the *Treuhand* competed with local business promotion institutions.

3.3. Business promotion objectives of the *Treuhand*

The management policy and the *Treuhand's* requirements to purchasers resulted from the following *Treuhand's* business promotion objectives. The business guidelines, the trust's constitution, the statutes and the statutory instruments only partly displayed these objectives. *Treuhand* statements and press releases name the following aims:

- establish both a predominantly market oriented and co-ordinated private economy;
- reduce the public sector while giving it a decentralised and sovereign, yet market oriented form;
- safeguard the transformation process;
- finance the transformation process;
- support the process of democratisation;
- protect the environment.

3.4. The *Treuhand* as a business promoter

Treuhand had become the most important federal business promoter in the new states (table 2). The *Treuhand* influenced the federal state business promotions indirectly through its implementation of the above mentioned support programs. According to legal provisions within the unification treaty it was involved in the transfer of property from the Federation to the federal states, thereby determining the potential of business promotion policy of the eastern states (articles 21 and 22, restitutional claims).

-ordinating the activities of the federal government, the states and the *Treuhand* were established. Furthermore, campaigns to reduce unemployment were started. The Free State of Saxony, and other new states negotiated the foundation of state enterprises with the *Treuhand*.

3.5. The *Treuhand* supporting local authorities in the new states

The *Treuhand* also transferred property to towns and districts thereby gaining some decision-making power. According to the treaty of unification (articles 21 and 22) local authorities could either reclaim their former property in the course of restitution or get property by operation of unification law. In case of doubt, the conditions prevailing in western towns serve as guidelines. Today, the *Treuhand* and financial directorates have to decide on approximately 190,000 requests of towns for the transfer of property. In specific cases of property sale to investors the former proprietor could only claim financial compensation.

Branch offices of the *Treuhand* co-ordinated with local authorities if land, real estate and infrastructure was needed for local business promotion. This was very important because nearly all measures of business promotion of local authorities involved *Treuhand* property. Conflicts arose between the needs of towns for business promotion and the privatisation policy of the *Treuhand*. The business promotion offices in the eastern states could not operate successfully without support of the *Treuhand*. Particularly with respect to land sales and the application of modern instruments of promotion such as industrial parks, the new technology centres, local development companies, and the local authorities in the East relied on the *Treuhand*. The *Treuhand* supported local authorities through privatisation of firms in respective municipalities.

3.6. Business promotion competition related to the BvS

Contrary to expectation, the *Treuhand* still had many years from 1995 on in which to carry out its tasks. A successor institution, the Federal Institution for Special Tasks Relating to Reunification, was established in 1995. One of its tasks was, and is, the implementation of contract management. This concerns the control and regulation of contract fulfilment, changes in contract as well as taking back of properties and businesses, the selling of enterprises and the subsequent utilisation of *Treuhand* sales contracts. These functions comprise direct measures of business promotion. Moreover, a development firm was activated which has to develop and sell real estate. It has to co-ordinate with the BvS and municipalities, thus playing an active part in business promotion. The BvS continues to carry out

tasks such as the allocation of property to the private and public sector, restitution to municipalities, creating measures of environmental protection and the re-establishment of chemical, ship building, steel and other industries. Therefore, the BvS still forms a business promoting institution today.

4. MICROECONOMIC MODELS OF COMPETITION IN THE NEW STATES

4.1. Business promotion competition without the *Treuhand*

Models of business promotion competition can be based on market theory approaches, game theory approaches, and concepts of workable competition. With respect to market forms oligopolies with the same goals or different goals applying the same parameters of action or different parameters of action are a common feature.

Given the characteristics of competition one could argue that traditional models of oligopolistic competition are applicable. Towns may attract firms through the sale of real estate at reasonable conditions. If both sides want to reach a favourable budgetary situation a Launhardt-Hotelling solution can be found. In such duopolies competitors often exhibit autonomous behaviour (Eichhorn and Friedrich, 1971). In the framework of this model one may conclude that if one competitor is situated in the new states and the other one in the west, the budgetary situation in the eastern town is influenced more strongly by receipts from land sales. This is due to the fact that exemptions from the property tax, the business tax on capital, exist. Moreover, the business tax on profit rarely contributes to the budget because of low profits of new firms and a small tax base because of the pooling of losses and profits. This implies that the solution lies in relatively higher land prices in the eastern town thus reducing the amount of land sold to investors there. If in both regions the aim is employment maximisation, the eastern competitor will try to sell a larger piece of property at a lower price.

The different parameters of action can be modelled as follows: for example, the eastern town could try to attract investors by subsidising investment whereas the western town could try to attract investors with moderate land prices; both towns are interested in budget surpluses. In this case a Launhardt solution would emerge showing land price levels in the western states under pressure. The models show tendencies concerning the development of parameters of action and the consequences of regional competition. The results received are limited because the assumptions of many enquirers for settlement and the divisibility of locations are unrealistic. Therefore (Lindemann, 1999) has developed a set of models which do not base on such assumptions. Against this background, game theory seems to be a

more adequate approach to model different parameters of action. We assume the existence of a single enquirer having a preference order with respect to possible locations in two towns. One of these towns may be situated in the east, the other one in the west. The two towns can be assumed to act as players. They use the offer of several locations as strategies. Locations combined with different measures of business promotion can be defined as different locations although in geographical terms they might be the same. The choice of the firm seeking to locate is determined by its order of preference. The pay-off awarded to the towns for employing their respective strategies of business promotion depends not only on the decision of the firm, but also on the goals the towns apply to evaluate the outcome of their efforts. This setting can be modelled in various games.

1. If the decision on the final location implies a resettlement, i.e. from the western town to the eastern town, and if both towns apply rough evaluation indicators (e.g. the number of jobs), a zero-sum situation is given, with the western town facing a loss of jobs which can in turn be created in the eastern town (figure 2).

Locations	Indicator 1	Indicator 2
A1	500	500
A2	400	600
B1	700	300
B2	100	900
C1	800	200
C2	0	1,000
D1	900	100
D2	0	1,000

Preferences of firm: $A2 > A1 > B2 > B1 > C2 > C1 > D2 > D1$

Locations	A2	B2	C2	D2
A1	400, -400	500, -500	500, -500	500, -500
B1	400, -400	100, -100	700, -700	700, -700
C1	400, -400	100, -100	800, -800	800, -800
D1	100, -400	100, -100	0, 0	0, 0

Fig. 2. Distribution of jobs and locations in town 1 and town 2

The town which has the location most favourable for the firms seeking to settle possesses a dominant strategy. After the unification the eastern town had the advantages of lower wages, easier access to labour, cheaper land, faster planning procedures, short distance to new markets in the new states, connections to markets in Eastern Europe, less opposition of environmental groups, and the marked presence of respected politicians. The western town offered better

infrastructure, more efficient administration, better provision of public and private services, and undisputed property rights. In the meanwhile the locational factors have changed. Today the eastern towns may win competitions if firms seek a location with land reserves and/or a good labour force which works longer, if firms are involved in the building up of infrastructure and environment in the new states or if firms become subcontractors of new industries to be established there. The towns in the eastern states increase the attractiveness of locations by applying the many programs of business promotion. They have better chances to realise a dominant strategy. On the other hand, the firm is in a better position to achieve profitable locations by demanding more assistance. The following implications of competition can be shown:

- the firm cannot be confident in getting the most preferred location, if towns possess dominant strategies related to other locations;

- if outcome is measured by simple goals, such as the maximisation of jobs, then costs and disadvantages of business promotion measures are not accounted for by the towns and in fact do not influence the pay-off structure of the game. Therefore, the settling firm can easily demand substantial business promotion and increase the amount of subsidies received from the federal government, the new states and the counties in the new states;

- such zero-sum games may easily occur if a firm contemplates to move from west to east because in many cases there is a lack of commuters, either between the two towns or from third towns, due to large distances between the two competitors;

- nowadays the situation has changed considerably because of favourable conditions for settlements in the Czech Republic, Poland and Hungary. There may be more players involved and more possibilities for movements available resulting in a multi-player game. In such a situation, the competitive situation of a town in the new states as well as that in the western states would be weakened.

2. A new settlement, which would create additional jobs in the one or in the other town, could result in a constant-sum game. With regard to the chances of eastern competitors to win competition, the same factors are relevant as those with respect to a resettlement.

3. A non-constant sum game may result if the towns apply more complicated standards of evaluation, meaning more differentiated goals such as income maximisation, environmental improvement, improvement of the budget situation, or bundles of goals. They may also pursue different goals. Another reason for such a type of game may be the consideration of commuters. In that situation there might be an absolute equilibrium point which shows a pair of strategies held to be the best for both parties. Such an equilibrium point might be rare if the towns are

not in close neighbourhood, which – with the exception of former eastern and western zonal border districts – is generally not the case.

Because of the uncomplicated goals they try to achieve, towns in the new states apply more simple evaluation standards. In spite of the disadvantages their chances of winning the competition through intensive business promotion are high. Because the recession in the western states forces the western players to pursue rather simple goals, e.g. high employment, the outcome in favour of eastern towns becomes less probable. A situation which involves political goals is a specifically interesting case. If in the western town city government is run by a political party, which sternly opposes growth and technical progress, the pay-offs of a new settlement in terms of ideologically based evaluations may turn out negative although the firm would like to settle there. If in the east a city government wants to foster economic growth, it will express its appreciation for the settlement by using its instruments of business promotion. Thus, the firm will settle in the east where it gets greater assistance. A change of government can switch both the game and the results heavily.

4. Hitherto, the firm was introduced into the games by a ranking of locations in accordance with its preferences – it could then choose the most favourable offer. However, a firm may bargain actively. This can be formulated in a manner similar to the vertical game between the firm and a town. In this game the firm and the town may find a Nash solution. The town offers locations combined with business promotion activities and the firm offers alternatives with respect to appreciated effects of its activities in town. After bargaining with one town, negotiations with another town, i.e. a town in the new states, may be started by the firm. In these negotiations the firm will argue with the results obtained in the first round of bargaining with the western town. Normally, an improved result with reference to the goals of the settlement firms can be expected. This result might be used in a second round of negotiations with the western town, thereby again improving the results in favour of the firm and so on.⁵ This process may come to an end when one of the towns does no longer benefit from the settlement of the firm. In cases where primitive goals combine with the extensive possibilities of business promotion in the East the chances of eastern towns to ‘win’ the settlement of the firm are quite high. With regard to the activities of *Treuhand* a similar model can be developed.

5. Today, both eastern and western towns face the following problem: as in the course of the transformation process the economy shrinks in the eastern town, the effects of the settlements shrink, too. In the unification phase the economy in the western towns experienced a strong boom, thus raising the effects and the pay-offs from industrial settlement. In the new states both the effects and the pay-offs

⁵ A similar competition process is modelled in Friedrich and Feng (1993).

shrank. On the one hand, the towns in the new states became aware of the necessity to promote industrial settlement. On the other hand, this standpoint failed to influence the strategies chosen in competition because simple goals for evaluations were used. Due to the recession and structural problems, the effects of settlement today also diminish in the West, thus intensifying the competition between Eastern and Western towns.

4.2. Business promotion including the *Treuhand* and the BvS

Treuhand and now the BvS may be interpreted as competitor in the games described above. Although it does not act primarily in favour of a town in the eastern states, the town benefits from successful *Treuhand* activities as long as the town's goals are positively linked with that of the *Treuhand*. The goals, which the *Treuhand* applies in negotiations, consist primarily of employment maximisation, investment attraction, restructuring of firms, and revenue maximisation for the *Treuhand*. Thus, these goals increasingly correlate with those of towns. This is even more true, when eastern towns adapt simple goals such as jobs creation. Therefore, in a vast number of cases, in which the *Treuhand* wins in competition, the town, where a firm sold by *Treuhand* is situated, will also gain. The difference between the *Treuhand* and the town is that the *Treuhand* not only owns big stocks of real estate, but also firms, which it can sell even at negative prices. It controls an extended set of instruments for business promotion which the towns themselves normally do not possess.

1. The *Treuhand* can easily be introduced into the resettlement games. It simply assumes the role of the eastern player. The chances for a zero-sum situation are far lower than in the situations described above. By using a simple utility analysis for evaluation the *Treuhand* applies more sophisticated goals than Eastern towns generally do. The game will show non-constant sums. There are many strategies with regard to the conditions of selling the firm. However, the number of locations offered in the east can be reduced to one i.e. that of the firm to be sold. Except in cases where the negative effects of business promotion of *Treuhand* in terms of its utility analysis are too high, the competitive situation of the *Treuhand* is favourable as it can offer conditions and prices which give the *Treuhand* a dominant strategy. Therefore, the *Treuhand* has considerably strengthened the competitive position of the new states.

2. The modelling of new settlements also shows non-zero-sum games. The conclusions with respect to the effectiveness of competitive strength of the eastern player and success are similar to those derived in the case of resettlement. This demonstrates the success of the *Treuhand's* efforts to attract new investors. Within

its utility indicator the wish to receive revenues is a factor limiting the business promotion activities of *Treuhand*. Restrictions on selling prices and subsidisation of *Treuhand* firms and former owners restrain the possibilities for business promotion by *Treuhand*.

3. The new settlement of a firm can be modelled with the help of a game featuring a firm located in a town in Western Germany and that of a town in the new states. This can be done by substituting the town in the new states with the *Treuhand*. If we turn to the competitive procedure mentioned above, the strong position of *Treuhand* which is able to offer favourable conditions becomes clear.

4. Sometimes the *Treuhand* competes with a town in the eastern states. In this case we can also apply the new settlement model. The *Treuhand* is frequently able to use its financial potential to win the game. However, with respect to the new states this competition leads to the application of the business promotion instruments and to highly attractive situations for investors. The *Treuhand* needs these promotions, especially to get rid of non-profitable firms. Another possibility is the support of existing firms, thus preventing regional economies from shrinking too much. A shrinking regional economy reduces the multiplier effects of investments thus making business promotion less effective.

5. Furthermore, *Treuhand* can support the business promotion of towns by offering property which is earmarked to attract investors. More often, however, the *Treuhand* tries to sell this property directly to firms or to the town which uses it as an instrument of business promotion by establishing its own enterprise or by selling it to private firms.

4.3. Models of vertical competition among the *Treuhand*, the BvS, communes and enterprises

Here, the actors are the *Treuhand*, or the BvS, a commune and a locating firm. The *Treuhand's* evaluations are illustrated with the aid of a utility function (Friedrich and Feng, 1993). The utility depends on the output V , investment K , receipts F (selling price) and on the magnitude of environmental improvements. In the end the utility is dependent on V and F . The restructuring concept for the firm is reflected in either V or ground property B . The *Treuhand* sells to a commune. The commune has an assessment function. It is interested in a high level of employment A and in the improvement of both its financial business promotion and budgetary situation. The utility function is rewritten so that the utility now depends on V , the original quantum of real estate B_0 , the resale price F^* , as well as on the buying price F . The production function for the locating firm can be described as follows. The output V depends on the employment of labour A , employment of capital K , the real estate B and on the communal preservices W . Additionally, a demand curve can be introduced. The cost function can be charted

with the following variables: output V , the old property B and the buying price F^* from the firm. The utility accruing to the location firm depends on the profit after tax taking into account business tax, corporation income tax, real estate tax and income tax. The firm minimises its costs. The utility for the *Treuhand*, the commune and the firm depends on the output (restructuring concept) and the buying price F . Between the *Treuhand's* selling price F and the buying price F^* of the locating company exist relations which are determined by the following sales situations.

The participants specify sale conditions within the framework of their contacts over the restructuring concept V and the price F . The actors thereby attempt to attain respective maximisation of utility. The vertical conditions of competition between the actors are captured in the framework of three models.⁶

In the model of first stage sale to a commune the locating firm is a public firm of the commune. The *Treuhand* and the commune negotiate over both the selling price and the output with the aim to maximise their respective utility. The commune negotiates on behalf of its public firms and establishes the output for its firm. For the public enterprise the mere stipulation of a minimum utility (Nu_{\min}) can be applied. Under these conditions the participants will arrive at Nash solutions. The actors consider prices at upper and lower limits and feel themselves dependent on the quantum of their respective minimum utility, e.g. Nt_{\min} , Ng_{\min} . These values also express alternative utilisation possibilities, alternative actions, or a competing offer.

In the first model – single stage sale – the negotiations between the *Treuhand* and the commune over price and the output V (restructuring concept) will be analysed (Friedrich and Feng, 1993). If from the utility functions systems of indifference curves with selling price F and output V are computed, a depiction of indifference curves $Nt1 > Nt2 > Nt3 > Nt4$ for the *Treuhand* and $Ng1 > Ng2 > Ng3 > Ng4$ for the commune will emerge. The tangential points of the indifference curves express a chain of Pareto optima. If the *Treuhand* demands a higher price F , the output V falls. If we establish the corresponding utility of the *Treuhand* and of the commune, we obtain the division of utility in the shape of a utility possibility curve. Such a curve demonstrates the number of Pareto optimal negotiation solutions to which selling price F and restructuring concept V belong. The minimum utility Nt_{\min} of the *Treuhand* and the commune's Ng_{\min} are also taken into consideration. The space for possible solutions is reduced in figure 4

⁶ The model of a two-staged sale to a commune without an active firm considers the issue of whether the locating firm, e.g. a private enterprise, is dependent on the commune or not. For a given buying price the location firm fixes the utility maximising output. The *Treuhand* and the commune can then negotiate over the buying price. The model of a two staged sale to a firm through a commune prescribes an active role for the locating firm. Commune and firm negotiate over the buying price F^* in order to establish the splitting of utility between them, and the *Treuhand* and the commune discuss the selling price F .

and constrained by the indifference curves – which correspond to minimum utility in figure 3. Application of the concept of Nash solution leads to the derivation of distribution of utility Nash 1 in figure 4. The *Treuhand's* utility and the selling price is dependent on the minimum utility and on the changes in utility due to a variation in selling price, a change of output and the size of environmental improvements parcel of land.

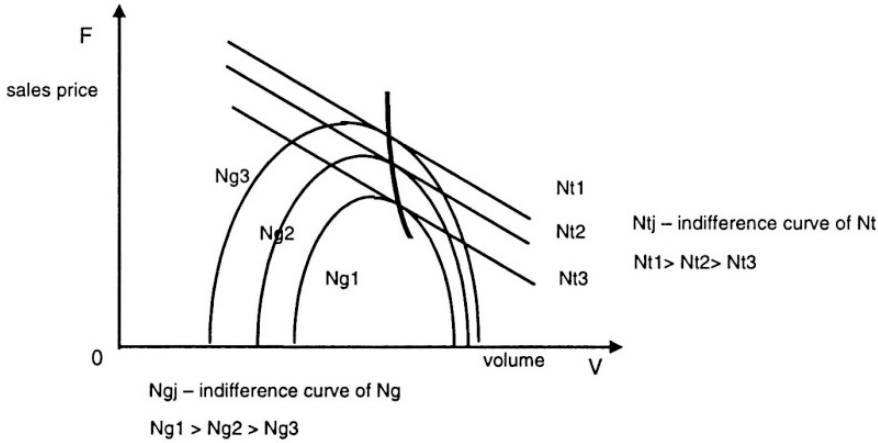


Fig. 3. Pareto-optimal prices

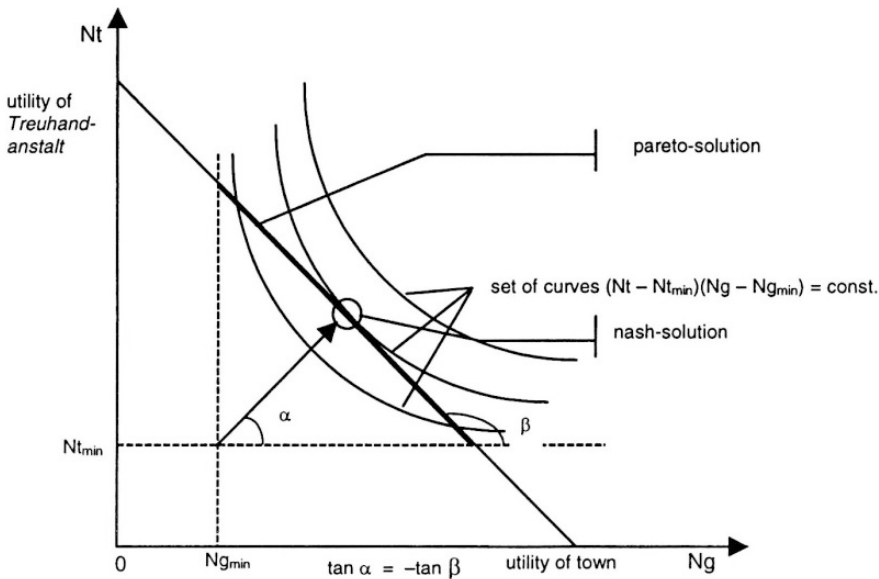


Fig. 4. Utility possibility curve

In light of the significance of the employment goals, the variation of the *Treuhand's* aims leads to a fall in price.⁷ The evaluation of both investment commitments and restructuring efforts produces similar results. If the *Treuhand* prefers greater revenue intakes, price increases will follow.⁸ Changes in the evaluations of the commune regarding employment show opposite effects. If the commune gives increased importance to employment, the buying price will rise. If the commune gives greater importance to the employed business promotion, it must inevitably insist on a lower price for the property.

Increased taxation (e.g. property tax) leads to an increased utility for the commune, which then – through a price rise – has to share the additional earnings with the *Treuhand*. Increased wages will lead to drops in the *Treuhand's* utility and a drop in the level of employment. The *Treuhand* counters this deficit by raising prices. An extension of demand signals rising prices.

4.4. The sale of firms under conditions of vertical and horizontal competition

The commune or the locating firm has often to take the presence of competitors into account. This means that the *Treuhand* or the BvS cannot simply sell a piece of property to the commune. Instead, it will be sold directly to a private firm. This scenario can appear at the first stage. It is furthermore conceivable that the commune owns a string of communal firms which in turn are keen on taking control of the company.⁹ In this scenario competition takes place at the second level. Horizontal competition occurs among the communal firms. In addition – assuming the existence of a uniform rate of rebate – the locating firms can compete for the acquisition of a company with the help of the communes. Alternatively, they could also negotiate the prices with the communes.¹⁰

If the *Treuhand* wants to offer either a firm or a property to several buyers – competition at the first level – it has the option of taking advantage of the intense competition between the firms and keep the accruing utility to itself. This form of competition can be modelled as follows. The *Treuhand* uses its utility attained from negotiation results as minimum utility in negotiations with the next applicant. Due to the increased minimum utility all those enquires, which register a rather high minimum utility or whose utility possibility curves describe a narrow solution

⁷ In model (1), model (2) and in model (3).

⁸ They take place in models (1) and (3) given that the higher level of output will be less rewarded. Model (2) depicts the case of the *Treuhand* slackening the price in the course of Nash solutions.

⁹ Framework of model (2).

¹⁰ In accordance with model (3).

space, drop out over a period of time. In the end only a supplier remains as constraint. If this supplier happens to be the commune, it is awarded the contract.

Simulations show that if the commune establishes its own firm, it attains attractive utility possibility curves and an attractive utility position. The commune beats the private competitors. Its influence on its own firm allows it to come forward with adequate offers which meet the *Treuhand's* aims.

With regard to competition at the second level, the commune either owns a string of communal firms or there are several locating firms with whom the commune can negotiate. In this case a variety of differing negotiated overall packages arises which the commune can present to the *Treuhand*. The commune will obviously cast the most attractive package (seen from its own interest, and measured by the outcome of the Nash solutions) on the negotiation table. This solution can be combined with the competition at the first stage. If the *Treuhand* has competing bids or alternative utilisation possibilities for companies and properties, the solutions for the single cases of location are eliminated by shifting the *Treuhand's* minimum utility toward an increased utility for the very same *Treuhand*.

As a result of the *Treuhand* taking advantage of intensive horizontal competition at the higher competitive levels, there is an overall increase in the *Treuhand's* selling prices. The competitors at the higher competitive level also contribute to this marked increase in the *Treuhand's* selling prices.

5. THE MODEL OF REGIONAL FISCAL POLICY

The model (Friedrich, 1987) incorporates connections between regional policy and regional competition. The competitors are two regions, identified by jurisdictions 1 and 2, and a federal government. For purposes of competition, the regional competitors and the federal government use macroeconomic parameters of fiscal policy, namely expenditures, taxes and debts. The competitive relations are of a macroeconomic nature. They operate through the tax receipts and expenditures of the jurisdictions. The regional economies comprise goods markets and factor markets, as well as goods and factor movements between the regions whereby competitive effects are transmitted in such a way that price levels and interest rates influence each other. Price variations are linked to employment changes. The regions compete for a maximal increase in income. The federal government is also included. A game is formulated.

The results show that region 1 – the new states – applies deficit spending and the western states apply Haavelmo policy. Both regions use fiscal policy as means of regional competition.

If the Federation turns to active fiscal policies, the results are not affected.¹¹ The effect of federal fiscal policy does not influence the competitive behaviour of the regions. In most cases income increases for region 1 and region 2. By allocating federal government expenditures and through the regional tax structure, federal government influences the income movements and levels in the individual regions, but not the result of competition. Therefore, the deficit spending policy of the Federation as such, i.e. that of the *Treuhand*, does not influence the choice of competitive strategies on the part of the new states. If the federal government has the right to prevent regions from employing some strategies, i.e. by limiting public debt of some states, it can influence competition. Another possibility is to link federal expenditure with the choice of strategies by the players. In this case the amount added to the values in the fields of the pay-off matrices is not constant. The most preferred strategy can be altered. By concentrating its financial resources on firms which are also supported by the new states or sold at favourable conditions to them, the *Treuhand* supports deficit spending in the new states and makes deficit spending even more favourable to the new states. This is a clear case of the *Treuhand* enforcing fiscal regional competition. It also influences regional fiscal competition by supporting those *Treuhand* firms which are less dependent on variations of interest. It reduces the crowding-out effects in the eastern states, thus encouraging their deficit spending policy.

The transformation policy and the business promotion policy of the *Treuhand* combine to influence economic conditions in the new states. When closing down firms some activities alter stocks, i.e. the size of population and the reduction of investments. These variations do not change the strategic choices of the competitors.¹² As far as the behaviour of the economic units in the regions is concerned, changes due to a change of parameter and the fluctuation of the respective variables occur. The variation of behaviour influences the terms which determine the dominant strategies, thereby influencing regional fiscal policy and the solution emerging from the competition. However, drastic changes in behaviour are necessary to alter the best strategy. This case may happen in the course of the reconstruction of economy in the eastern states, when a crowding-out effect develops and the propensity to consume is not greatly reduced. Under these conditions deficit spending becomes less favourable, and in severe cases the dominant strategies will be Haavelmo strategies in the new states, too.

¹¹ It adds the same value to all of the fields in the respective matrices of the players. Therefore the differences in pay-offs of strategies are not changed for the players. The competitive solution remains the same.

¹² Again the pay-offs are changed by constant amounts only.

6. CONCLUSIONS

Business promotion is integrated into vertical and horizontal nets of regional competition with the *Treuhand* or the BvS playing an important role. It acts in favour of the new states by being involved in business promotion activities. This is an example of a microeconomic form of competition. Another form of regional competition concerns fiscal policy in the new states. The new states all want to increase their income. The *Treuhand* or the BvS is also involved in this sphere of activity as an integral element of federal deficit spending policy.

Regional competition by business promotion takes the shape of competing business promotion agencies and business promotion offices. *Treuhand* or the BvS is one of these competitors. There is significant demand for locations for the settlement of firms. A variety of business promotion institutions have been founded during the last year. In both western and eastern parts of Germany the goals of the competitors are similar, but more related to investment attraction and job creation. The goals of *Treuhand* and the BvS are rather complicated and also refer to the promotion of public sector institutions. Many parameters of action are chosen within the framework of this competition. Some of these parameters are different in the eastern part of Germany where oligopolistic market forms prevail.

In the western states the number of settlements of industrial firms is between 150 and 300 per year. The business promotion institutions in the new states have promoted approximately 2,000 settlements. Most successful was *Treuhand* with its over 9,000 sales within five years.

These empirical findings coincide with results derived from models. Price theory approaches and game theory models show the good position of business promotion institutions in the new states. Some of these models can also be applied to the *Treuhand* or the BvS.

A model of vertical competition is constructed. *Treuhand* (BvS) sells a firm or property to a town which in turn uses the property to establish a public enterprise or to sell it as a measure of business promotion to private firms which settle in the town. The model shows Nash solutions between the town and the *Treuhand* and between the town and the private firm which settles there. It underlines the level of co-operation between the *Treuhand* (BvS) and several towns. The model helps to explain price formation and variation with respect to *Treuhand* firms and real estates.

This model is extended to include horizontal competition. Especially the competition among towns and private firms which look for locations shows that in many cases the *Treuhand* (BvS) prefers business promotions through sales to towns instead of direct business promotion to private firms.

Aided by an additional two region model regional competition by fiscal policy is modelled. The two regions can be the eastern and western states. The regions

apply different fiscal policies in order to maximise regional income, according to conditions on capital and goods as well as labour markets. Generally, fiscal policy of the Federation does influence the income positions of the regions. However, it influences neither the competitive strategies nor the behaviour of the regions.

Strategies vary if fiscal measures of the Federation are linked to competitive strategies of the regions. The *Treuhand* can be interpreted as a measure of deficit spending by the Federation. This measure is tightly linked with business promotion activities in the new states and makes it easier for the new states to accept budget deficits.

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