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Regional Economic Change and the „Wissenschaftsstadt Ulm"

Prolegomenon

Basic information for the following contribution was given by Ivo Gönner, mayor of the city of Ulm and, at that time, president of the "Städtetag Baden-Württemberg", during an interview on July 22, 2010. This meeting with an international group with participants from France, Germany, Portugal, Romania and Spain was part of the 9th edition of the 2h2s-seminary.

At this point, it is important to mention that Ioan Ianoş organized the first 2h2s-seminary in 2002 in Romania. Subsequently, he and his staff at CICADIT organized the conferences in 2009 and 2013. In all these scientific meetings, we analyzed manifold phenomena of regional change and discussed perspectives of regional development in a comparative perspective. These topics are main fields of Ioan's scientific interests. So, this essay is dedicated to Professor Ioan Ianoş, as member of the 2h2s-consortium and reliable cooperation partner of the Geographic Research Group on Migration and Transitionin Bamberg.

Ulm and Neu-Ulm

The urban agglomeration of Ulm and Neu-Ulm is the administrative center of the planning region "Donau-Iller" in Southern Germany. This cross-border planning region counts almost one million inhabitants. Thereof the city of Ulm, which belongs to the German Bundesland "Baden-Württemberg", has 122 000 inhabitants. Bavaria's Neu-Ulm counts 53 000 people. This is not the only difference of this disproportionate twin-city: for example, Ulm was founded in early medieval times, whereas "New-Ulm" – *nomen est omen* – is a younger foundation dating back to the 19th century.

The sectorial economic change and the breakdown of the regional economic structure

The sectorial economic change during the 2nd half of the 20th century passed the metropolitan area of Ulm and Neu-Ulm not without a trace. Ulm

had one of the highest densities of industry in the 1970s in Germany and faced a massive crisis of its industrial enterprises at the beginning of the 1980s. This became a heavy burden in a city with approximately 100 000 inhabitants and 40 000 being employed in the industrial sector.

Just the biggest employer, Magirus, a well-known traditional brand in vehicle manufacturing (today Iveco) provided 12 000 jobs. Today they have not more than 2 500 employees in Ulm. In 1982, about 1 800 workers have been affected by mass dismissals at "Videocolor", a company involved in electro-technology. This year must be considered as the end of a more than 100-years tradition of industrial development that led – in the long run – into a one-sided orientation on metal processing and electro-technics with obsolete products and productions. But, at the same time, this year was the starting point for a very comprehensive restructuring of the regional economy. There are several important milestones on this way into the "productive service society".

Future research fields of the „productive service society"

Germany's future in economic terms is the „productive service society". The Region of Ulm has quite good preconditions for the combination of the second and the service sector. The background of the industrial tradition and the strong significance of research and development lead, in terms of regional development, to five relevant topics which will define the future emerging markets of the 21st century:

- *Energy and energy technologies:* The foreseeable end of the „hydrocarbon era", with its limited natural resources, determines the need for new concepts of energy production and energy use. Beside the further development of renewable energies optimizing energy efficiency takes a leading role.

- *Materials and material science:* The same is true for material science. Products made from iron and steel are replaced more and more with those from plastics or ceramics, for instance in car production or medical technology. Generally, initial productions on the basis of ores are compensated by cycles of materials on the basis of recycling.

- *Electronics and information and communication technology*: Germany has entered the ICT-era long ago. Microelectronics and computer technologies are part of our daily living. ICT dominate manufacturing, industrial production and product design. Thus, qualifications in these technologies are necessary requirements on the labor market.

- *Biotechnology and bioengineering:* Biotechnology needs high qualifications, too. This is a trend-setting, interdisciplinary and applied field of research with strong cooperation between natural sciences like (micro)biology or chemistry as well as engineering and process technology.

- *Health care and gerontology:* Facing demographic ageing and an average life expectancy of more than 80 years, health care and gerontology get

more and more interest, not only in Germany but also in the whole post-industrial world.

In this future research fields, the city of Ulm and the entire region see themselves in a good position in 2010 – three decades after the industrial crises mentioned above. The main driving force for the structural change into a knowledge-based regional development is the "Wissenschaftsstadt" (Science City) of Ulm including the science parks in direct vicinity.

The concept of the „Wissenschaftsstadt"

Mainspring in the process of realignment is the university which is specialized in natural sciences and engineering. The State University was founded in 1967 and it is the backbone of the regional economic change until today. From the very beginning, the university and its surrounding institutions have been promoted as a platform for knowledge-creation and public-private exchange of knowledge and professional experiences. Today, this platform serves as the basis for a strong connection between science and practice.

In this spirit, the process of innovation was divided into two elements: the pre-competitive part at first includes research and development which is financed mainly by public funds. This is the basis for the implementation of scientific results into practice as the second step. This means that investments shift from product innovation into process technology, which has to be financed mainly by private economy. This role is taken by well-known globally acting companies as well as by more or less nameless smaller but highly specialized SMEs from the region. In this respect, today's Science City of Ulm serves as a good example for a functioning public-private-partnership.

Research and development and spread effects

Directly connected to the Science City, approximately 8 000 new jobs have been arisen during the last years. A leading role in knowledge transfer take the "Science Parks": the first of them established in 1986 with 20 ha of office space. As the success of this concept became clear, the "Science Park II" was implemented rapidly during the 1990s. Today we find there research centers of companies like Daimler Chrysler, Siemens and Nokia. Because of the great demand plans for the third stage of expansion, 40 ha are in the pipeline and already realized in parts.

In these Science Parks a municipal project development agency provides office space with adequate infrastructure. This means that public authority makes the investment in advance and minimizes the entrepreneurial risk during the start-up of private companies; they are free to rent the office or to buy the real estate sooner or later. The goal of the Science City is to bring forward research and investments in innovative productions with the creation of new jobs in newly founded enterprises in high-tech industries. These start-ups induce important effects for the labor market. Moreover, secondary effects in

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subordinated networks exceed the number of jobs in the Science City. These networks include much more components as the university and the science parks themselves. For instance, a certain number of small but very innovative enterprises established in the whole region. Obviously, behind these developments are synergy effects for example with the BA/MA-studies in Pharmaceutical Biotechnology at the "Biberach University for Applied Sciences" (30km west of Ulm) as well as the University medical centers in Ulm, including the military hospital there.

The role of public authorities

In the light of this story of success nobody should forget that the foundation of the University as well as the step-by-step-extension to the Science City was highly supported by the federal state of Baden-Württemberg. In this terms most of the relevant decisions are linked with the former federal prime minister, Lothar Späth, who supported the project substantially and sometimes against numerous antagonisms which have been existing in the rest of the "Ländle" (i.e. Baden Württemberg). Also of big importance was the readiness of the Bavarian side to foster the project, for instance with the new university for applied sciences in Neu-Ulm. A milestone was the linkage to the research departments of Daimler and AEG as well as the integration of several small and medium sized enterprises from the region. And, at the end, all relevant decision-makers correlated with an open-minded population and actors who were ready for a change.

All in all, with the concept of the Science City and the spread effects of the connected research and development institutions it was possible to save the whole region from a deep and long-term economic crisis. The costs of such a regional depression for the whole society and the national economy would exceed the public 500-million-investment by far. Today, the planning region Donau-Iller is another pole of growth between the metropolitan regions of Stuttgart and Munich.

The Science City Ulm – a neoliberal model for success?

The successful adjustment of the regional economic structure could lead to a neoliberal interpretation. According to this a rapid transformation and the acceptance of structural changes would be better than keeping the old, but obsolete industrial structures – a way with which the cities of Nuremberg and Fürth for example made their own experiences at last. But, this argumentation would ignore that in the Science City, as a "model of success", industrial tradition as well as public assistance play an important role. Obviously, the secret of success is the recombination of both factors: tradition *and* innovation.