The following presentations were held and discussed in Bendorf (Rhine) on May 4 and 5, 2007:

1. Inventory management in closed-loop supply chains

Prof. Dr. Karl Inderfurth, University of Magdeburg

In combination with regular production processes in a company, product recycling leads to so-called closed-loop supply chains, which place special demands on effective inventory management. This also applies to the recycling of process-induced as well as product-induced residues. In these cases, internal or external returns from recycling objects (defective products or old products) must be processed, the occurrence of which is characterized by a high degree of uncertainty.

It is shown what information can be provided by stochastic dynamic optimization for optimal coordination of production and recycling decisions in a corresponding problem context with random-dependent returns and requirements. As a practical approach, the use of a simply structured planning rule for stochastic inventory planning is proposed - separately for internal and external returns. The disposition parameters to be used are determined on the basis of a heuristic approach appropriate to the problem. As a special case in the context of external returns, the disposition problem of spare parts stock after the end of series production can be dealt with, including the reprocessing of parts from old products.

It can be seen that a promising planning rule is characterized not only by the stochastic nature of returns and requirements, but also very much by the ratio of the throughput times of production and recycling. As a result, it turns out that for an effective inventory management in case of uncertainty, the production and recycling decisions must be based on separate security stocks and on specific information about stocks and open orders. In the case of internal product returns, the safety stocks have to be continuously and dynamically adjusted, unlike external returns.

2. Real options and agency conflicts

Prof. Dr. Thomas Pfeiffer, University of Vienna

Recently, the focus of business interest has increasingly been on the theory of real options, which assigns flexibility (at least weakly) to positive decisions when making investment decisions. Agency conflicts are typically negated within the framework of the classic real options theory. The subject of this article is to take this into account and to analyze the influence of agency conflicts on the value of real options. As a result of the investigations, it can be seen that the value of a real option has, in addition to the positive flexibility value discussed in the classic real option theory, also a value originating from the agency problem, since the real option means that the incentive risk trade-off underlying the agency conflict changed. However, depending on the incentive and risk structure, this additional value can either be negative or positive. This article identifies situations in which the real option may have a negative value due to the agency conflict.

3. Self-commitment, first-mover and second-mover advantage

Prof. Dr. Michael Kopel, Vienna University of Technology

In this lecture we will investigate how different combinations of strategies for self-commitment affect the company's performance in competition. We consider a Stackelberg game and assume that both the Stackelberg leader and Stackelberg follower can use the following self-commitment strategies: (i) investment in process innovation to reduce costs (choice of technology) and / or (ii) delegation the production decision to a manager (choice of organizational form). It shows that in balance

1. both companies want to reduce their costs through process innovation,
2. the owners of the Stackelberg-Führer company make the production decision themselves, but the owners of the subsequent company delegate the production decision to a manager, and
3. the follow-up company can thus compensate for the first mover advantage of the volume leader (ie higher profits).

A graphic and mathematical analysis shows that the two self-binding strategies - although seemingly very similar - differ considerably in their effects.

4. Entrepreneurial Elites: Industry Structure, Investment, and Welfare Effects of Incubating New Businesses

Prof. Dr. Oliver Fabel, University of Konstanz

We compare two institutional regimes in which individuals with complementary task abilities found entrepreneurial partnerships: corporate spin-offs of initially randomly matched production teams and the rational matching of such teams in an incubator organization. The alternative consists of seeking employment in industrial firms which pay a certain wage. This wage reflects the expected team quality assuming that all professionals who do not found firms themselves are randomly matched in production teams. Each institutional setting gives rise to a unique efficient competitive equilibrium such that both industrial and entrepreneurial firms coexist. The efficient incubator equilibrium induces a larger entrepreneurial sector in the industry. HOWEVER, simulations show that neither of the two regimes unambiguously yields higher industry-wide investments. Welfare comparisons assume that individuals do not yet know their specific ability profiles. Higher degrees of risk-aversion (interest-rates) render the efficient spin-off (incubator) equilibrium dominant.