Abstract for "Explaining Differences in Rates of Return across Industries: The Roles of Intangible Capital, Risk and (Lack of) Competition"

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In his article "Persistence of Profits Above the Norm", Mueller (1977, p. 369) states that "in an efficient market economy, profits above or below the norm should quickly disappear." This statement is contrary to the findings of numerous empirical studies that document persistent inter-sectoral differences in the rate of return on capital.

From a theoretical perspective, persistent rate of return differences indicate inefficiency and point to a lack of competition. However, such an interpretation is valid only if returns are accurately measured. Maybe it is a lack of measurement rather than a lack of competition which is responsible for the evidence. We consider two measurement issues, intangible capital and risk adjustment.

The rate of return on capital - in commercial as well as in national accounts - is calculated as operating profit related to a number of classified, mostly tangible, assets. Recent research has made transparent that these assets cover only a part of the total capital employed in firms. The boundaries of what is considered an asset are increasingly extended to include intangible capital, which should be included in the denominator of the rate of return. Moreover, depending on their industry, firms are exposed to different degrees of risk. Since capital employed in more risky firms demands a risk premium, rates of return have to be adjusted accordingly.

Our analysis proceeds in three steps. Initially, we use data on German industries from the EUKLEMS database to study sectoral differences in rates of return, as conventionally measured, over a period of more than 25 years. We document the magnitude, structure and persistence of these differences.

In the next step, we try to produce improved measures of the rate of return on capital by (1) adjusting for risk and (2) incorporating intangible capital. For risk adjustment we employ two alternative measures, the Sharpe ratio and CAPM industry betas, both derived from EUKLEMS data. Our measures of intangible capital are based on data collected in the INNODRIVE and INDECSER projects. Using this data, we are able to calculate improved rates of return –adjusted for risk and intangible capital– for the period from 1999 to 2003.

In the final step, we study the distribution of improved rates of return by (1) comparing it to the distribution of conventional rates of return and (2) relating it –in the spirit of the theory mentioned above– to measures of the intensity of competition. For the latter purpose, we employ two alternative competition measures: rates of entry and exit of firms and the within-sector variance of rates of return (based on the EUKLEED firm level data).