

# The Changing Knowledge Divide in the Global Economy

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## Summary

The starting point for this project is a fundamental change currently occurring in the way innovation is organised in the developed countries: many innovation activities that used to be carried out in-house by innovating firms themselves are carried out by independent suppliers of knowledge intensive business services (KIBS), or are transferred to key suppliers. We call this the 'organisational decomposition of innovation'. The central aim of the project is to analyse how this affects the location of innovation activities in the world. This is uncharted territory, hence this project. The question that drives the investigation is *how does the organisational decomposition of innovation in developed countries change the global distribution of innovation activities?* We are particularly interested in whether - and in what circumstances - it leads to more innovation activities taking place in developing countries.

The investigation will focus on changes over the last 5 years. Analysis of advanced country experience will need to show how far this organisational decomposition of innovation has gone and what form it takes. Analysis of developing country experience will need to show whether the organisational decomposition in developed countries makes it easier, or more difficult, for them to develop their innovation activities. What circumstances help them, or hinder them, to take advantage of the new scenario? Answering these questions means breaking new ground. It requires new conceptual and empirical work.

The conceptual and theoretical challenge lies in integrating the best from three bodies of literature: local innovation systems, global value chains and knowledge intensive business services. The empirical challenge lies in capturing interconnected changes occurring in both parts of the global knowledge divide. In order to examine these changes in depth we propose to carry out two pilot studies – one in the manufacturing sector and the other in the service sector. Innovative activities differ across sectors– both between manufacturing and service industries and in spatial terms. The plan is to focus on the automotive industry and the software industry.

The automotive industry was among the first manufacturing industries to start flexible specialisation processes and vertical disintegration. The outsourcing of production functions to low cost locations was already evident from the mid 70s and increasingly so in the 80s. Meanwhile it is an industry which has a fully global developed and operable value chain where the organisational decomposition of innovation activities can be considered. The research will concentrate on Brazil and Germany, but changes in other countries will be taken into consideration.

The software industry has grown rapidly in developed countries, notably USA, Germany, Ireland and Israel. It is a human capital intensive service industry that does not need an extensive material infrastructure in order to grow. In the developing world the industry is also growing rapidly, notably in India but also in

other countries such as China or Eastern Europe. For the purpose of this project, attention will be focused on India and Germany, but changes in the other countries will not be ignored.

A cross-sector comparative perspective is critical for providing insights into whether the organisational decomposition of innovation shows similar or different patterns in industries producing tangible goods compared with those producing intangibles. The comparison also helps to define the key questions for future research – which is regarded as a critical outcome of this project. Another purpose of the pilot studies is to provide future research with a tested conceptual apparatus for studying the hypothesised changes in the global knowledge divide. While one can build on existing literature, new conceptual work will need to be carried out.

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<http://www.uni-marburg.de/fb19/personal/professoren/strambach/research/projects>

<http://www.ids.ac.uk/ids/global/projects/volkswagenproject.html>