Autor	Jahr	Titel	Keywords	Forschungsfrage und Forschungsgegenstand	Methode	Ergebnisse	Limitationen, weiterer Forschungsbedarf	Journal	VHB-JOURQUAL / SSCI
Abramo, Giovanni; D'Angelo, Ciriaco Andrea and Caprasecca, Alessandro	2009	Allocative efficiency in public research funding: Can bibliometrics help?	research assessment, universities, peer review, bibliometrics	This work, examines the case of the whole of the "hard sciences" of the Italian academic system, makes a comparison between results obtained from peer review type of evaluations (as adopted by the Ministry of Universities and Research) and those possible from a bibliometric approach (as developed by the authors). The aim is to understand to what extent bibliometric methodology, which is noted as relatively inexpensive, time-saving and exhaustive, can complement and integrate peer review methodology in research evaluation.	The magnitude of the VTR effort can be suggested by a few pertinent facts: the evaluation included 102 research institutions (77 universities and 25 public research organizations) and examined about 18000 outputs, drawing on 20 "peer" panels (14 for disciplinary areas and 6 for interdisciplinary sectors), 183 panelists and 6661 reviewers, with the work taking 12 months, and with financial costs mounting to 3.5 million euros. Data used for the bibliometric analysis of the Italian academic system were extracted by the ORP (Observatory of Public Research for Italy) database. The ORP collects and sorts information on the scientific production by scientists in Italian public research laboratories, in a form that enables aggregation operations at higher levels (scientific sector, disciplinary area, faculty or school, university). The database was developed by extracting all publications (articles and reviews) listed in the Thomson Reuters Science Citation IndexTM (CD-Rom version) having at least one Italian affiliation.	For evaluation of the quality of research outputs (of a specific institution, in a given disciplinary area) the two methods are thus substantially equivalent. There is, after all, no reason to believe that an evaluation of an article's quality by two experts nominated as part of a national evaluation exercise would be better than the evaluation by international referees on behalf of the journal in which it is published and of the peers who then cite the article. The differences in cost and times to execute the evaluations would certainly be relevant; Indeed, bibliometric analysis of the publications selected from the hard science areas for participation in the VTR shows that Italian universities, in the main, did not identify and/or present their supposedly best publications. The investigations conducted in the third part of this study indeed demonstrate that the universities indicated as being of top quality by the VTR are not necessarily also those that are most productive, in both quantitative and qualitative terms. As a direct cause of this, more productive research institutions would receive fewer funds than would be economically optimal, from the prospective of allocative efficiency.	In the arts and humanities, as in law and in part in socio-economic areas, international scientific publication does not represent the usual form for codifying and disseminating the results of one's research activity, and the peer review approach thus remains difficult to substitute. The peer-review approach still remains necessary to evaluate research outputs other than publications in indexed journals (such as patents, proceedings, etc.) and dimensions of excellence other than quality and productivity, particularly the dimension of the socio-economic impact of research activities.	Research Policy, Vol. 38, Issue 1, pp. 206-215 (2009)	A / 34
Abramo, Giovanni; D'Angelo, Ciriaco Andrea and Di Costa, Flavia	2009	Research collaboration and productivity: is there correlation?	research collaboration, productivity, universities, bibliometrics	The incidence of extramural collaboration in academic research activities is increasing as a result of various factors. These factors include policy measures aimed at fostering partnership and networking among the various components of the research system, policies which are in turn justified by the idea that knowledge sharing could increase the effectiveness of the system. Over the last two decades, the scientific community has also stepped up activities to assess the actual impact of collaboration intensity on the performance of research systems. This study draws on a number of empirical analyses, with the intention of measuring the effects of extramural collaboration on research performance and, indirectly, verifying the legitimacy of policies that support this type of collaboration. The analysis focuses on the Italian academic research system. The aim of the work is to assess the level of correlation, at institutional level, between scientific productivity and collaboration intensity as a whole, both internationally and with private organizations.	This will be carried out using a bibliometric type of approach, which equates collaboration with the co-authorship of scientific publications.	It becomes apparent that collaboration intensity is not uniform, but rather depends on the specific scientific field considered. Sectors which are by definition interdisciplinary, with production of cross-sector knowledge in different research domains, certainly have a stronger tendency to use collaboration than more ''vertical'' sectors, where research tends to be relatively more intra-mural.	Our analysis cannot give a straightforward answer to our first research question. What emerges is that the correlation degree between productivity and extramural collaboration intensity varies substantially among different areas.	Higher Education, Vol. 57, Issue 2, pp. 155-171 (2009)	C / 32
Abramo, Giovanni; D'Angelo, Ciriaco Andrea and Di Costa, Flavia	2011	University industry research collaboration: a model to assess university capability	university-industry collaboration, bibliometrics, co-authorship	This work presents an econometric model which expresses the university capability for collaboration with industry as a function of size, location and research quality.	The study develops two econometric models in which capability for collaboration of universities with industry is expressed through sets of explanatory variables. The first model considers only quantitative structural variables. The second model integrates these structural variables with others that represent the scientific quality of the university and its individual research groups. This second set of variables represents the distinctive competencies of the university, which are also sources of competitive advantage. In this paper, the study of university capability to collaborate with industry is conducted at two distinct levels: at the level of scientific field (from now on called scientific disciplinary sector, SDS, in accordance with the Italian university classification) and at the aggregate level. The bibliometric census observed as proxy (more than 1500 publications, representing a total of almost 2000 universityindustry collaborations in the 2001–2003 triennium). Using the Espacenet search engine we have identified 284 patents filed by Italian universities between 2001 and 2003. Of these, only 20 were co-filed with private enterprises.	The analysis of the pharmacology SDS in all universities gave results that were significant but difficult to generalize to the overall university-enterprise collaboration in Italy because of the characteristics of this particular scientific sector in Italy, especially the forms of interaction with private enterprises. The aggregate level model seems more promising as a source of information that could be useful in planning policy interventions. However, from both levels of analysis, it can be observed that the capability of a university to attract private enterprise collaboration is influenced by the size of the group of academic researchers. The presence of a proximity effect is also confirmed, meaning that the capability of a university to collaborate decreases with increasing distance from enterprises. This effect is more notable for the pharmacology SDS than for universities as a whole. The excellence of the university is shown to be the most important determinant in explaining the capability for collaboration with enterprises. The most notable difference between the two types of analysis is the difference in the effect of scientific excellence on the dependent variable. In analysis at the aggregate level the value of the estimated coefficient is very high, while in the analysis for the pharmacology SDS the coefficient is close to zero and not statistically significant.	Limited number of variables considered and the choice of proxies for their measurement. The authors are confident that it is possible to further strengthen this approach to render it more robust for future applications.	Higher Education, Vol. 62, Issue 2, pp. 163-181 (2011)	C / 4
Acosta, Manuel; Coronado, Daniel and Angeles Martinez, M.	2012	Spatial differences in the quality of university patenting: Do regions matter?	European regions, university patents, forward patent citation, patent quality, multilevel models	This paper uses patent citation data to analyze the quality of university technology across European regions. The empirical analysis draws on a panel dataset of 4580 European university-owned patents classified by 202 European regions over the period 1998–2004.	The methodology involves a multilevel framework to identify the effects of factors at three hierarchical levels (individual, university, and regional) on the quality of university patenting.	The results suggest that regional factors, such as the level of development, industrial potential, and regional higher education R&D expenditure, do not play any significant role in determining the quality of European university patents. We instead find that the factors affecting patent quality stem from their specific characteristics. We also find that university size does not explain the quality of patents.	However, there is significant unobserved heterogeneity at the university level in all models, suggesting that differences in other university characteristics explain a substantial part of the variance in patent quality.	Research Policy, Vol. 41, Issue 4, pp. 692-703 (2012)	A / 1
Agrawal, Ajay	2001	University-to-industry knowledge transfer: literature review and unanswered questions	university research, university-industry relationship, knowledge transfer	There are differences in the degree to which firms are capable of effectively utilizing univerity research to ther benefit and that these differences vary systematically with the degree to which firms are connected to the university.	Reviews the economic literature concerning university-to-industry knowledge transfer. The reasearch streams "firm characteristics", "university characteristics", geography in terms of localized spillovers", "channel of knowledge transfer" are disscussed and key papers are discribed highlighting important methodologies and resulsts.	Variations in certain university intellectual property policies are related to the degree of production and licensing of patents. Despite the open-science culture that is prevalent in the university environment and that results in the regular publication and patenting of ideas that are equally aviaiable across all geographic space throughout most of the developed world, the commercialization of university inventions remains somewhat localized to the region of invention. University knowledge may be transferred to industry through a variety of channels and that the patent-related channel is less important than commonly belived.	**Firm characteristics:** focus on a single industry. Explore the degree to which methods for building absorptive capacity differ across industries. Further study to understand the other methods for building connectedness, and explore variations in connectedness across different political and cultural environments. **University characteristics:** further research about the amount and type of technology transfer that occurs outside the formal rout of the technologytransfer office; detaild studies that investigate the variance in licensing agreement terms across technologies as well as universities. **Geography:** further research include studies of the Internet effect and the degree to which this weakens the geography effect due to reductions in TAK associated with some forms of communication. **Knowledge transfer:** Severe lack of varietey of research questions. Basic research into the mechanics and characteristics of other channels.	International Journal of Management Reviews, Vol. 3, Issue 4, pp. 285-302 (2001)	C / 81

Aldridge, Taylor and Audretsch, David	2011	The Bayh-Dole Act and scientist entrepreneurship	Bayh–Dole Act, entrepreneurship	Much of the literature examining the impact of the Bayh-Dole Act has been based on the impact on patenting and licensing activities emanating from offices of technology transfer. Studies based on data generated by offices of technology transfer, suggest a paucity of entrepreneurial activity from university scientists in the form on new startups. There are, however, compelling reasons to suspect that the TTO generated data may not measure all, or even most of scientist entrepreneurship. Rather than relying on measures of scientist entrepreneurship reported by the TTO and compiled by AUTM, this study instead develops alternative measures based on the commercialization activities reported by scientists. In particular, the purpose of this paper is to provide a measure of scientist entrepreneurship and identify which factors are conducive to scientist entrepreneurship and which factors inhibit scientist entrepreneurship.	This enables us to compare how scientist entrepreneurship differs from that which has been established in the literature for the more general population. We do this by developing a new database measuring the propensity of scientists funded by grants from the National Cancer Institute (NCI) to commercialize their research as well as the mode of commercialization. We then subject this new university scientist-based data set to empirical scrutiny to ascertain which factors influence both the propensity for scientists to become an entrepreneur.	The results suggest that scientist entrepreneurship may be considerably more robust than has generally been indicated in studies based on TTO data. It shows that scientists who are on a board of a company or scientific advisory board, and publish frequently with scientists employed in industry have a greater propensity to engage in entrepreneurial activity.	Research is limited to technology transfer.	Research Policy, Vol. 40, Issue 8, pp. 1058-1067 (2011)	A / 11
Arvanitis, Spyros; Kubli, Ursina and Woerter, Martin	2008	University-industry knowledge and technology transfer in Switzerland: What university scientists think about co-operation with private enterprises	knowledge and technology transfer, patenting, licensing, spin-offs	This study explores empirically the factors determining the propensity of Swiss science institutions at the level of a single institute or department to get involved in a wide spectrum of knowledge and technology transfer (KTT) activities with private corporations.	A new element that this paper adds to empirical literature is the analysis at the level of institute or department of a wide spectrum of KTTT activities covering besides research co-operation also informal informational contacts, educational activities, consulting and joint use of technical infrastructure. The data used in this study were collected in the course of a survey among Swiss research institutes using a questionnaire which included questions on the incidence of KTT activities among institutes or departments of Swiss science institutions.The survey was based on a sample of institutes and/or departments of the existing Swiss public science institutions. On the whole 630 single institutes and departments covering all scientific fields related to technology and science. This sample has been constructed according to internet information on the structure of each institution especially for this study. We received 241 completed questionnaires, i.e. 38.3% of the institutes and departments responded to our survey.	Institutes with a stronger orientation to applied research and/or lower teaching obligations are stronger inclined to get involved in KTT activities. The same is valid for institutes that have already had experience with industry co-operations as reflected by a high share of external funds in an institute's budget. There is no systematic size effect.We could not find any discernible differences among the three groups of science institutions with respect to overall KTT activities. Institutes of economics and business administration, natural sciences, engineering and medicine are stronger involved in KTT activities than institutes of mathematics and physics. Institutes of engineering, natural sciences and economics /management are strongly represented among KTT-active institutes. Access to business sector knowledge, financial motives are the most important incentives for most types of KTT activities. Results with respect to the three important channels of KTT, patenting, licensing and the formation of new knowledge-based firms showed considerable differences with respect to the relative importance of the determinants examined in this study. A further finding was that licensing and spin-offs were hampered by the same category of reported obstacles reflecting the perception of academics of an industry research profile which does not correspond to their own needs and interests.	The first point is related to the role of Technology Transfer Offices. They seem to fulfil well their function as 'specialized consultants' with respect to patenting, licensing and the promotion of new firms. But they seem to perform less well as 'KTT intermediaries'. They are important for mediating informal contacts and educational activities but not for negotiating research and consulting contracts or infrastructure-related activities. Thus, there is some scope for university policy here trying to drive TTO stronger to a 'research-oriented' path. A second and more important point refers to the obstacles of KTT. Differing interests and attitudes, fears to lose scientific independence or neglect basic research and scientific publication activities seem to be the most relevant impediments for scientific institutes to get engaged in KTT activities. This could build the starting point for a policy intervention aiming at bringing universities and business closer together.	Research Policy, Vol. 37, Issue 10, pp. 1865-1883 (2008)	A / 26
Audretsch, David; Lehmann, Erik and Warning, Susanne	2004	University spillovers: does the kind of science matter?	spill over, knowledge, commericalization	This paper identifies one particular mechanism transmitting the spillover of knowledge. Students serve as a conduit for transmitting knowledge from the university where it is created, to a firm, where it becomes commercialized.	We do this by linking the locational choice of firms, in terms of proximity to a university, to the research and educational outputs of universities. By distinguishing between natural science and social science research outputs, as well as between students in the natural sciences and social sciences, this paper analyzes a data-set consisting of 281 publicly listed firms in German high- technology and knowledge industries.	The results of this study not only confirm that university spillovers play an important role, but also that they have a strong influence in the strategic locational decisions of firms. However, the locational decision is shaped not only by the output of universities, but also by the nature of that output. In this paper, we consider research and education in two different fields, the natural sciences and the social sciences, as outputs. To access knowledge transmitted by published articles in the social sciences, geographic proximity is particularly unimportant. The more generic nature of this academic field and its lower rate of new inventions and innovations makes it less important as a locational decision variable.	While this paper has considered only heterogeneous spillovers with respect to the natural sciences and social sciences and their impact for young and older firms, future research might focus on more finely delineated academic disciplines to identify more precise modes and magnitudes for knowledge spillover mechanisms.	Industry and Innovation, Vol. 11, Issue 3, pp. 193-205 (2004)	B / k.A.
Auranen, Otto and Nieminen, Mika	2010	University research funding and publication performance - An international comparison	university research, funding, competition, publication performance, efficiency	Our aim in this article has been twofold: first, to see how the funding environments of university research vary across countries.The theoretical idea behind this analysis was that financial incentives form a macro-level imperative in the development of university-based research. The second aim of the article was to analyze the compared countries' scientific productivity in terms of international publications.	Our analysis consisted of three phases. The first step was to describe the allocation mechanisms of core research funding as well as the level and sources of research funding for universities. Second, we positioned the countries in the analytical framework. Third, we analyzed the efficiency of university systems in the compared countries. By using six-year means of funding and publications we were able to eliminate possible year-to-year fluctuations, thus giving a simple and more solid figure for general trends.	The article shows that there are significant differences in the competitiveness of funding systems, but no straightforward connection between financial incentives and the efficiency of university systems exists. Despite the fact that often countries effectively emulate each other's policy solutions, such as the NPM principles, transformations do not take place in a uniform manner. Governments adapt policy solutions to their own systems and have to take into account the political and systemic conditions under which changes can be implemented. though the countries with a competitive funding environment for university research (the UK, Australia and Finland) appear more efficient than the rest, they have not been able to increase their efficiency in publication output. At the same time, some university systems with a less competitive funding environment are either almost as efficient as the more competitive systems (Denmark) or have been able to increase their efficiency despite the relatively lowlevel of competition for funding (Sweden and Germany).	More detailed country-specific studies on the relations between funding incentives and the dynamics of research activity are needed. There is some evidence that, at the grass-root level of research, researchers are able to adapt to increased competition for funding. Adaptation can happen through careful selection of funding sources, "creative" use of funding or through shaping the research content. Our macrolevel approach is not able to reveal these kinds of processes.	Research Policy, Vol. 39, Issue 6, pp. 822-834 (2010)	A / 31
Auspurg, Katrin; Hinz, Thomas und Güdler, Jürgen	2008	Herausbildung einer akademischen Elite? Zum Einfluss der Größe und Reputation von Universitäten auf Forschungsförderung	funding, research, academic elite	Mit der verstärkten Drittmittelfinanzierung von Forschung gewinnen die Verteilungsprinzipien von Forschungsgeldern für den Erfolg einzelner Wissenschaftler sowie ganzer Forschungsinstitutionen an Bedeutung. Vorliegender Beitrag ziel auf die empirische Überprüfung von Hypothesen zum Einfluss der Größe und Reputation von Universitäten auf die Bewilligungschancen der bei ihnen beschäftigten Wissenschaftler.	Mit prozessproduzierten Daten zu den im Zeitraum 1992 bis 2004 bei der Deutschen Forschungsgemeinschaft eingereichten Anträgen auf Einzelförderung (sogenannte "Normalverfahren") werden multivariate Analysen der individuellen Bewilligungschancen sowie der Drittmitteleinwerbungen universitärer Fachgebiete angestellt.	Im Ergebnis sind Kontext- und Konzentrationseffekte kaum nachzuweisen: Lediglich für Wissenschaftler an westdeutschen Traditionsuniversitäten finden sich leicht erhöhte Bewilligungschancen und erst bei weit überdurchschnittlichen Größen setzen sich höhere Personalbestände nicht mehr in vermehrte Antragstellungen und Bewilligungen um.	Ebenso ist auf der Makroebene einzelner Universitäten kein Trend einer zunehmenden Ungleichheitsverteilung auszumachen.	KZFSS - Kölner Zeitschrift für Soziologie und Sozial-psychologie, Vol. 60, Issue 4, pp. 653-685, (2008)	k.A. / k.A.

Bammer, Gabriele	2008	Enhancing research collaborations: Three key management challenges	collaboration, integration, boundary, authorization, evaluation	This conceptual paper explores three areas of research collaboration: (a) effectively harnessing differences, (b) setting defensible boundaries and (c) gaining legitimate authorization. The focus is on their potential lessons for individuals leading and managing research collaborations, evaluation of research partnerships and areas for further investigation. This paper provides a number of ideas to stimulate exploration of key elements of partnerships that are likely to influence collaboration success.	Three case studies are used as illustrations. They are: building the atomic bomb (1941–1945), the Human Genome Project (1986–2001) and the World Commission on Dams (1998–2000). They were selected as examples of very large-scale collaborations which illustrate three different types of partnerships: (1) involving only researchers, (2) involving researchers and powerful practitioners and (3) bringing researchers together with practitioners from opposite ends of the power spectrum.	• applying and further developing an agreed framework to systematically describe the integration of the various perspectives and elements fundamental to harnessing difference in any particular collaboration; • asking a compendium of methods for managing personality, value, world-view, research approach and other differences which are incidental to, but have the potential to significantly disrupt, partnerships and which can be used to foster reciprocity; • building on scoping and Critical Systems Heuristics to develop systematic ways of defining the boundaries of research collaborations; • learning from diverse partnerships about how inevitable pressures which constrain the boundaries – like limited funding, time and other resources, political pressure, and power differences between disciplines – can best be recognised and accommodated, as well as how creativity can be nurtured in a 'deliverables' culture; • researching diverse partnerships to better understand processes of authorization, trade-offs and preventing restrictions on research independence; • expanding evaluation criteria and processes so that research collaborations can be adequately assessed and an increasing body of experience and knowledge can be built.	There seems to be little available knowledge, however, about what resource allocation is reasonable for collaboration. The second issue specific to collaborative research is how best to evaluate claims for partnership success.	Research Policy, Vol. 37, Issue 5, pp. 875-887 (2008)	A / 23
Bekkers, Rudi and Freitas, Isabel Maria Bodas	2008	Analysing knowledge transfer channels between universities and industry: To what degree do sectors also matter?	university-industry links, innovation development, channels of knowledge transfer	There is a wide variety of channels through which knowledge and technology is being transferred between universities and industry. This paper aims to explain the relative importance of these different channels in different contexts.	For this purpose, responses from two questionnaires were analysed, addressing Dutch industrial and university researchers, respectively.	A reassuring result is that the perceived importance of the 23 distinct transfer channels we distinguished hardly differs between industry and university: we did not observe a major mismatch. Overall, our results suggest that the industrial activities of firms do not significantly explain differences in importance of a wide variety of channels through which knowledge between university and industry might be transferred. Instead, this variety is better explained by the disciplinary origin, the characteristics of the underlying knowledge, the characteristics of researchers involved in producing and using this knowledge (individual characteristics), and the environment in which knowledge is produced and used (institutional characteristics).	Given the nature of our study, some limitations have to be taken into account. Firstly, there might be bias induced by the selected samples. We aimed to gather sufficient data for a number of sectors (and related disciplines) that are seen as exemplary for certain main classes in the renowned work of Pavitt, and the later additions by Marsili. A necessary cause of this pre-selection is that other sectors and – to a lesser extent – disciplines are somewhat underrepresented (the respondents found via the Royal Institution of Engineers in the Netherlands were not preselected). Secondly, as has been stressed above, this study has focused on the firm side on the perspectives of researchers that actually perform R&D tasks. Hence, a study that would address all firm staff accessing university knowledge might find different (and, on the average, lower) ratings for the various knowledge transfer channels. Finally, it is not unlikely that there are significance differences across countries with specific academic, industrial and political contexts. Therefore, our results may not be generalised to other countries.	Research Policy, Vol. 37, Issue 10, pp. 1837-1853 (2008)	A / 63
Benner, Mats and Sanström, Ulf	2000	Institutionalizing the triple helix: research funding and norms in the academic system	triple helix, research funding, academic system	What are the institutional mechanisms that enable or hinder the development of new forms of knowledge production? This issue has been slightly neglected in the discussion of the ''triple helix''. To redress this shortcoming, the authors suggest an institutionalist complement to the triple helix model. The article analyzes the institutional regulation of academic research, with a special emphasis on how norms in the academic system are constituted via research funding. It is argued that funding is a key mechanism of change in the norm system since its reward structure influences the performance and evaluation of research. The more general and theoretical aim has been to highlight some of the institutional mechanisms behind changes in knowledge production.	The empirical analysis is based on the public financing of technical research in Sweden, with comparisons made with other countries. The structure of research funding has been reformed in all the countries studied. The paper shows a overview about financiers of R&D performed by universities in medicine, natural science and technology.	The two dominant models of research funding, an intra-academic model and a top–down interventionist model, seem to be replaced partly with a catalytic one. However, there are counteracting tendencies.	Some agencies still reproduce a model of reputational control and a collegial orientation among researchers. It is concluded, therefore, that the forces of change and continuity are engaged in a process of negotiation about the normative regulation of academic research. Research funding is a battleground for different agents with different strategies, and its structure will be a crucial element in the development of new forms of knowl- edge production.	Research Policy, Vol. 29, Issue 2, pp. 291-301 (2000)	A / 55
Benneworth, Paul and Jongbloed, Ben W.	2010	Who matters to universities? A stakeholder perspective on humanities, arts and social sciences valorisation	universities, knowledge transfer, knowledge exchange, societal contribution, social compact, stakeholder theory, knowledge transfer policy	Valorisation is at the centre of many debates on the future of academic research. But valorisation has largely become narrowly understood in terms of universities' economic contributions through patenting, licensing, spin-off formation and technology transfer. This emergent restrictive definition of universities' societal impacts is a worrying development, overlooking the potential of universities' knowledge in the Humanities, Arts and Social Sciences (HASS). Our hypothesis is that HASS disciplines' disadvantage compared to the hard sciences (lesser policy attention and funding for commercialisation) arises because HASS stakeholders are not sufficiently salient as stakeholders to universities.	Using case studies of three policy experiments, we argue that universities' responsiveness to stakeholders does not evolve simply and functionally but in response to the networks of relationships in which they are situated.	This has important implications for how stakeholder research is used in higher education research, and for the design and implementation of policies to improve universities' societal contributions.	Only case studies were used.	Higher Education, Vol. 59, Issue 5, pp. 567-588 (2010)	C / 15

Beyerlein, Thorsten	2008	Erfindungen an Hochschulen - Der Wegfall des Hochschul-lehrerprivilegs - ein Zwischenbericht	Hochschullehrer-privileg, Arbeit-nehmererfindungs-recht	Im Jahr 2002 wurde das sog. „Hochschullehrerprivileg“ im Gesetz über Arbeitnehmererfindungen (ArbEG) abgeschafft. Damit haben sich die Rahmenbedingungen für Forschung und Entwicklung an deutschen Hochschulen grundlegend geändert. Bis dahin waren Erfindungen von Professoren, Dozenten und wissenschaftlichen Assistenten in wissenschaftlichen Hochschulen freie Erfindungen und standen damit in der Inhaberschaft der Erfinder. Die Arbeit befaßt sich mit der seit Anfang 2002 umgestalteten Erfinderrechtslage an Hochschulen, die in ihren zahlreichen Auswirkungen noch nicht abschließend geklärt ist. Nach kurzer Einleitung in die Problemstellung untersucht die Arbeit die rechtsgeschichtliche Entwicklung der Hochschullehrererfindung seit der Einführung des Patentgesetzes im Jahre 1877 bis zu der Abschaffung des Hochschullehrerprivilegs im Jahre 2002. Anschließend wird die Neuregelung des Rechts der Hochschulerfindung behandelt, wie sie sich durch die Neufassung des § 42 ArbEG darstellt. Schließlich erfolgt die umfassende verfassungsrechtliche Würdigung dieser bislang noch nicht höchstrichterlich geklärten Rechtslage unter Einbeziehung der Hochschulerfindergemeinschaften.	Keine Empirie; exemplarisch drei in der öffentlichen und juristischen Diskussion vermehrt auftretende Problemkreise werden dargestellt und erläutert.	Aus praktischer Sicht ist dabei bedeutsam, dass der BGH dem Erfinder selbst das Risiko auferlegt, zu Unrecht eine „Fristverkürzung“ vor der Offenbarung der Dienserfindung vorzunehmen und ihn ggf. hierfür gegenüber seinem Dienstherrn haftbar macht. Gemäß § 42 Nr. 4 ArbEG steht dem an einer Hochschule beschäftigten Erfinder eine Vergütung in Höhe von 30 Prozent der durch die Verwertung durch den Dienstherrn erzielten Einnahmen zu. Für Unternehmen der freien Wirtschaft im Rahmen einer Forschungskooperation mit einer Hochschule ist zum Schutz des aus der Forschungstätigkeit entstehenden geistigen Eigentums notwendig, auch mit der Hochschule direkt in vertragliche Beziehungen im Hinblick auf die Zuordnung von Erfindungen zu treten. Dies führte in der Praxis zu „dreiseitigen Verträgen“, denen aus juristischer Sicht das Problem gemein ist, dass durch die dort vorgeschlagenen Vertragsmuster das rechtliche Risiko der Vertragsnichtigkeit aufgrund eines Umgehungsgeschäftes in Bezug auf ein gesetzliches Verbot besteht. Eine höchs-trichterliche Klärung dieser Frage steht noch aus.	k.A.	Forschung & Lehre, 7/08, S. 462-463 (2008)	E / k.A.
Bhupatiraju, Samyukta; Nomaler, Önder; Triulzi, Giorgio and Verspagen, Bart	2012	Knowledge flows - Analyzing the core literature of innovation, entrepreneurship and science and technology studies	entrepreneurship, innovation studies, science and technology studies, relationship	This paper applies network analysis to a citation database that combines the key references in the fields of Entrepreneurship (ENT), Innovation Studies (INN) and Science and Technology Studies (STS).	Methodology: network analysis (database) , one data source used.	We find that citations between the three fields are relatively scarce, as compared to citations within the fields. As a result of this tendency, a cluster analysis of the publications in the database yields a partition that is largely the same as the a priori division into the three fields. We take this as evidence that the three fields, although they share research topics and themes, have developed largely on their own and in relative isolation from one another. We also apply a so-called ‘main path’ analysis aimed at outlining the main research trajectories in the field. Here we find important differences between the fields. In STS, we find a cumulative trajectory that develops in a more or less linear fashion over time. In INN, we find a major shift of attention in the main trajectory, from acroeconomic issues to business-oriented research. ENT develops relatively late, and shows a trajectory that is still in its infancy.	A final point should be noted about the nature of the documents on the main path of the network, as described by Figs. 5–8. While these figures include many of the publications that were identified as crucially important in the three field studies, they also exclude certain publications that a casual observer might identify as particularly crucial ones. The results of our quantitative analysis are consistent with such a view, but only more specific qualitative research can provide further support for such a hypothesis. How the ENT field will develop in this respect still remains to be seen. More generally, it would seem that the social science of knowledge and innovation is an interesting field that merits further study of its internal dynamics.	Research Policy, Vol. 41, Issue 7, pp. 1205-1218 (2012)	A / 13
Boardman, P. Craig and Corley, Elizabeth A.	2008	University research centers and the composition of research collaborations	university research centers, research collaborations, organizational design	There has been little systematic study of the center-level attributes that facilitate (or hinder) research collaboration at the individual level. This paper estimates whether center-level measures of research capacity and structure affect center affiliated university scientists’ and engineers’ collaborative behaviors. We consider the effects of center multidisciplinarity, size, and center ties to private firms and to federally funded centers programs on the time allocated to collaboration with researchers from industry, other universities, government laboratories, and abroad.	Yet, these studies remain focused on collaboration-level effects instead of individual-level. Therefore, in our analysis we emphasize the participants and stakeholders to which center scientists are exposed by the way of center affiliation, though we also consider structural characteristics, such as “size” and “multidisciplinarity”. Our analyses compare center to non-center scientists and also address within-group differences among center scientists. The data that we use for our analysis were drawn from a national survey of university scientists that was conducted from August 2003 to July 2004 by a team in the ResearchValue Mapping Programat Georgia Tech. The sample design for the survey included tenured and tenure track scientists and engineers employed in “Research Extensive” (formerly “Research I”) universities. The data were collected via a mail survey that followed Dillman’s (2000) “tailored design method.” The final response rate for the survey was 38%. After removing sociologists and faculty employed at EPSCoR universitiesand HBCUs from the sample, the final N for this dataset included 1647 university researchers. From this set of scientists, 32% indicated affiliation with a university research center. In addition to asking whether respondents affiliate with a university research center, we also asked respondents to list the name of the center with which they affiliate.	Center-level attributes to “map” to the expected collaborative behaviors while other center-level attributes do not. Hypothesis 1 was that center affiliation would be negatively correlated with time spent working alone on research. This hypothesis was verified both when we did and did not control for individual-level variables beyond center affiliation. Hypothesis 2 addressed the amount of time that researchers spend collaborating with others in their home university. The results verified this hypothesis for two cases. First, affiliation with an industry-linked center was positively correlated with collaboration outside the immediate work group but within the university; moreover, affiliation with a federal centers program-linked center was positively correlated with collaboration within the immediate work group. Hypothesis 3 was that collaboration with researchers at other universities would be negatively correlated with industry-linked center affiliation. Hypothesis 4 was that collaboration with researchers at other universities would be positively correlated with program-linked center affiliation and center size. In both cases, industry-linked center affiliation was negatively correlated with collaboration at other U.S. universities. But program-linked center affiliation was not significantly correlated with collaboration with researchers at other U.S. universities.	To ensure that center participants and stakeholders interact to the extent and in the ways intended, center program officials and/or center management are faced with a unique challenge insofar that they are not entirely (or even partially in many cases) in control of numerous other “design” factors that affect the behaviors of individual researchers, most importantly the incentive structure to which center researchers are subject as faculty in academic departments. It is unclear across the broad and diverse population of university research centers the extent to which centers engage in these activities, though previous research on federally funded centers programs suggests that such activity is not the norm (Boardman and Bozeman, 2007). The point is to ensure that centers consider where they are headed as academic institutions in addition to where they are headed in terms of research collaboration. Such consideration probably will have to occur at the level of center management, on a center by center basis.	Research Policy, Vol. 37, Issue 5, pp. 900-913 (2008)	A / 28
Bolli, Thomas and Somogyi, Frank	2011	Do competitively aquired funds induce universities to increase productivity?	research funding, productivity, research, university, technology transfer, third-party funding, endogeneity	This paper analyzes the impact of private and public third-party funds on the productivity of Swiss university departments and public research institutions.	241 of the 630 questionnaires were returned, implying a response rate of 38.3%. The data entails the number of master degrees measuring teaching output. Research output is quantified as the number of papers published in scientific journals. We estimate an output-oriented multi-output production function in translog form using OLS, assuming that labor produces scientific publications and master students and compare the results to a model that introduces technology transfer as a third output. we use three alternative approaches to tackle the econometric problems of endogeneity due to omitted variable bias: The first approach separates departments based on a survey question whether technology transfer has increased research funding resources. Our second approach to tackle endogeneity in the estimation consists of exploiting within-university variation by including university fixed effects, thereby controlling for unobserved heterogeneity, e.g. quality differences; we also employ a 3SLS methodology, which estimates separate production functions for each output simultaneously.	Estimating a production function assuming that labor inputs produce master students and scientific publications reveals a positive effect of public third-party funding on productivity but not for private funds. However, once we include technology transfer as an additional output, the coefficient for public third-party funding turns insignificant while private funding becomes significant, indicating that the disciplining effect of public donors focuses on publications while private donors foster technology transfer. We employ three alternative approaches to tackle endogeneity and find qualitatively robust results.	A limitation of our paper is that while the categories public and private funds might capture quite heterogeneous funding sources, our data only allows the separation of these two broad categories. It is left to future research to delve deeper into the issue and analyze the impact of more accurately specified funding sources on the behavior of researchers.	Research Policy, Vol. 40, Issue 1, pp. 136-147 (2011)	A / 8

Bozeman, Barry	2000	Technology transfer and public policy: a review of research and theory	technology transfer, public policy, research, theory	My purpose is to review, synthesize and criticize the voluminous, multidisciplinary literature on technology transfer. To reduce the literature to manageable proportions, I focus chiefly not exclusively on recent literature on domestic technology transfer from universities and government laboratories. I begin by examining a set of fundamental conceptual issues, especially the ways in which the analytical ambiguities surrounding technology transfer concepts affect research and theory. My literature review follows and I emphasize technology transfer's impact and effectiveness.	I employ a ''Contingent Effectiveness Model of Technology Transfer'' to organize the literature. As the model's name implies, it assumes that technology effectiveness can take a variety of forms. In addition to examining the more traditional effectiveness criteria- those rooted in market impacts the model considers a number of alternative effectiveness criteria, including political effectiveness, capacity building.	In short, the evaluation dominance in university and government laboratory technology transfer research is a mixed blessing. Because there is interest in evaluating technology transfer, research is supported by mission agencies and there is much more technology transfer research and, I think, much greater understanding than there would otherwise be. Likewise, evaluation objectives serve as a reality check.	But if the ''dependent variable'' is almost always some concept of near-term effectiveness, it is easy to lose sight of important aspects of technology transfer. There are several hundred publications on technology transfer, but many topics are neglected. We still know almost nothing about technology transfer politics, including distributional outcomes of technology-based economic development. We have little understanding of many critical impacts, such as developments in scientific and technical human capital, occurring over long time periods. We know little about the impact of technology transfer activities on institutions, their designs and their full range of capabilities.	Research Policy, Vol. 29, Issue 4-5, pp. 627-655 (2000)	A / 257
Breschi, Stefano and Catalini, Christian	2010	Tracing the links between science and technology: An exploratory analysis of scientists' and inventors' networks	science-technology, research networks, knowledge transfer	The paper provides an exploratory analysis of the research networks linking scientists working in an open science environment, and researchers involved in the private technology domain.	Building on the literature reviewed above, we provide an exploratory analysis of the simultaneous embeddedness of researchers in scientific and technological networks. First, we identify the set of scientific papers relevant to a given technological field by exploiting information on citations to the scientific literature contained in patent documents; second, we use co-authorship and co-invention data to investigate the connectivity between the scientific and technological research networks. The methodology proposed here allows us to generalise some of the previous findings to other, less well explored science-based industries, such as lasers and semiconductors, and to the global set of organisations. The study combines data on scientific co-authorship with data on patent co-invention, at the level of individual researchers, for three science-intensive technology fields, i.e. lasers, semiconductors and biotechnology, in order to assess the extent of the overlap between the two communities and to identify the role of key individuals in the process of knowledge transfer. The empirical analysis in this paper relies on a large, complex relational data set that combines information on the lists of inventors on patent documents and the lists of authors of the scientific publications cited in those patents. We use social network analysis of co-authorship and co-invention ties to test the degree of connectedness between the two communities.	First, our results show that, in spite of the different objectives and incentive structures, the two communities of researchers are connected to a relatively large extent. Second, certain individuals, i.e. authors-inventors, play a key role in connecting the scientific and technological research communities, by acting as gatekeepers that bridge the boundaries between the two domains. Our findings reveal that the extent of the connectedness among scientists and inventors is rather large, and that particular individuals, i.e. authors-inventors, who act as gatekeepers and bridge the boundaries between the two domains, are fundamental to ensuring this connectivity. These individuals tend to occupy prominent positions in the scientific and the technological networks. However, our results also show maintaining a very central position in the scientific network may come at the expense of being able to fill a similarly central position in a technological network (and vice versa). Finally, preliminary analysis of the institutional origins of authors-inventors shows that one characteristic, distinctive of Europe compared to the United States, is associated with the relatively lower involvement of corporate scientists at the intersection between the two worlds of science and technology.	The limitations of our study. The first, perhaps not so obvious limitation refers to the cost of conducting a large scale analysis of co-authorship and co-invention networks. A very important concern in social network studies is how to define the network boundaries, i.e. which actors to include. The key point here is that if the boundaries are defined in a too restrictive way, in order, e.g., to reduce the size of the sample, this will risk excluding some important actors and ties and could produce a biased picture. The present study is not completely free of these problems. we cannot rule out the possibility that the strategy we adopted to delimit the boundaries of the relevant networks, i.e. by analysing only scientific papers cited by patents in a specific technological field, excludes some relevant articles and scientific authors. Finally, it is important to point out that social network analysis based on bibliometric indicators cannot substitute for more in-depth analysis of the different, often informal mechanisms through which science and technology interact. At the same time,we believe that careful use of the tools offered by social network analysis and equally careful interpretation of results could make an important contribution to the design of more qualitative studies aimed at capturing the subtleties involved in the interactions between the two worlds.	Research Policy, Vol. 39. Issue 1, pp. 14-26 (2010)	A / 25
Bruneel, Johan; D'Este, Pablo and Salter, Ammon	2010	Investigating the factors that diminish the barriers to university-industry collaboration	universities, university-industry-collaboration, barriers to collaboration, inter-organizational trust	This paper seeks to unpack the nature of the obstacles to collaborations between universities and industry, exploring influence of different mechanisms in lowering barriers related to the orientation of universities and to the transactions involved in working with university partners. This paper explores the effects of collaboration experience, breadth of interaction, and inter-organizational trust on lowering different types of barriers.	Drawing on a large-scale survey and public records; final sample of 3431 individuals; method of estimation is the Poisson regression model.	The analysis shows that prior experience of collaborative research lowers orientation-related barriers and that greater levels of trust reduce both types of barriers studied. It also indicates that breadth of interaction diminishes the orientation-related, but increases transaction-related barriers. It does show that transaction-related barriers are much more difficult to mitigate than orientation-related barriers. We show that transaction-related barriers areparticularly sensitive to government policy and higher education governance. At the same time, older and more informal systems of exchange and collaboration are coming under increasing scrutiny from university administrators.	Future research should explore the barriers over time, and examine the factors that lower or raise the barriers to collaboration.Future research should also examine the impact of barriers on the outcomes of collaboration. Although we have suggested that problems of coordination within the university may give rise to the increases of transaction-related barriers, our study does not explicitly measure the efforts of university to coordinate its activities and therefore we cannot know whether this explanation is the correct one. We also do not know how the use of ex-ante IP agreements may help lower downstream conflicts between universities and industry partners or whether such agreements themselves create barriers for successful collaborations. This too is a critical area for further research.	Research Policy, Vol. 39, Issue 7, pp. 858-868 (2010)	A / 53
Chang, Yuan-Chieh; Yang, Phil Y. and Chen, Ming-Huei	2009	The determinants of academic research commercial performance: Towards an organizational ambidexterity perspective	organizational ambidexterity, research commercialization, academic patent inventor	This paper examined the relationship between organizational ambidexterity and research commercialization in universities.	Dataset of 474 academic patent inventors in Taiwan; the appropriate models are count data models, and a natural starting point of estimation is to use negative binominal models.	The paper develops two types of organizational ambidexterity: structural ambidexterity and contextual ambidexterity that influence research commercialization. Results revealed structural and contextual ambidexterity factors are patenting-, licensing- and start-up-specific. Despite both types of ambidexterity are complementary in patenting and licensing, contextual ambidexterity outperform structural ambidexterity in fostering university start-up equity participation. To promote academic research commercialization, it is necessary to build up a university as a dual structural organization that allows pursuing research excellence and research commercialization at the same time. This study confirms that 80% licensing income distributed to university's side gives institutional legitimacy in fostering academic licensing performance. Industrial collaborative research and industrial-sponsored contract research are the important networking capabilities that foster academic based technology licensing. The campus entrepreneurial fund and incubator facility were suggested as the important impetus in fostering equity participation in academic spin-offs. The networking of venture capitalists is not found to stimulate the development of spin-off equity participation.	However, the current institutional environments have not persuaded the universities in Taiwan to be ambidextrous in stimulating involvement of spin-off equity number. Policy-makers are suggested to re-examine the current policy in evaluating universities and researchers that focus mainly on research publication, patent grant, and technology transfer. It is suggested that faculty recruitment and promotion should advance the weight of venturing and industrial experience of faculty.	Research Policy, Vol. 38, Issue 6, pp. 936-946 (2009)	A / 17

Crespi, Gustavo; D'Este, Pablo, Fontana, Robert and Geuna, Aldo	2011	The impact of academic patenting on university research and its transfer	crowding-out/in effect, academic patenting, complementarities among knowledge transfer activities	This paper has tried to fill this gap by examining a sample of UK scientists, in the Engineering and Physical sciences, based on two separate surveys of their activity in knowledge transfer, and the information from their CVs. This paper contributes to the ongoing debate on the impact of academic patenting on publishing and knowledge transfer. Drawing upon two separate surveys of academics, and their CV information, we provide empirical evidence for UK academics in engineering and physical sciences.	We supplemented these data first, by collecting information from the CVs of a sub-sample of the survey respondents in order to construct a longitudinal PATPUB dataset covering the entire academic lives of these researchers. We used the PATPUB longitudinal database to study the relationships between patenting and publishing. Second, we collected information on patenting involvement for the full set of respondents to the original survey, to study co-occurrence between patenting and other channels of knowledge transfer. To investigate the issues discussed above, we collected information on the patenting activity of a sample of UK academic researchers in order to build a comprehensive dataset. We drew on a 2004 survey of academic researchers who had received grants from the UK Engineering and Physical Sciences Research Council (EPSRC)5 in the period 1999–2003. The survey6 was sent to 4337 UK academic researchers in 10 scientific disciplines corresponding to the Physical Sciences and Engineering, and obtained 1528 responses.	The contribution of this paper is two-fold. First, our findings show that (the intensity of) academic patenting complements publishing up to a certain level of patenting output, after which we find evidence of a substitution effect. We also find weak evidence of important differences across scientific fields with the more basic-oriented fields showing indications of a crowding-out effect. Second, our analysis of the potential impact of patenting on knowledge transfer shows a positive correlation between the stock of patents and engagement in knowledge transfer channels. However, we find that a substitution effect sets in, indicating an inverted U-shaped relationship between patenting and several knowledge transfer channels.	Although interesting, our results require further corroboration and should be interpreted with caution given the nature of the databases used for the analysis. First, the starting sample may be biased in favor of those academics who interact with business (and therefore have a higher probability of being associated to a patent) as this type of interaction is more common in the scientific fields financed by the EPSRC compared to other scientific fields. Second, the first part of the analysis is based on a very detailed and unique dataset constructed from the information in researchers' CVs for the period 1975–2005. However, the sample could be biased as it includes only active academics, excluding older academics who may have been research-active during their careers but who were not engaged in EPSRC-funded research in the period surveyed. Larger samples are needed to validate our results. In addition, extracting comparable information from CVs is not easy, and we were not able to gather information on research funding during the 30-year period of our analysis. Lack of control vairable.	Research Policy, Vol. 40, Issue 1, pp. 55-68 (2011)	A / 14
Cummings, Jonathon N. and Kiesler, Sara	2007	Coordination costs and project outcomes in multi-university collaborations	collaboration, teamwork, knowledge, coordination, geography	Multiuniversity collaborations and the decision processes that underlie engaging in multi-university collaborations.	Study of the coordination activities and project outcomes of 491 research collaborations funded by the US National Science Foundation; used self-reports on the survey and information available on the web to classify each senior researcher's discipline (statistical mediation analysis).	Coordination activities, especially division of responsibility for tasks and knowledge transfer among investigators, predicted project outcomes (e.g., producing new knowledge, creating new tools, and training students). However, more universities involved in a collaboration predicted fewer coordination activities and fewer project outcomes. A statistical mediation analysis showed that insufficient coordination explained the negative relationship between multi-university collaboration and project outcomes.	We focused on short-term outcomes in research collaboration, rather than the quality of a particular outcome or long-term outcome. We also examined only outcomes directly related to the collaborations and not the other opportunities forgone by participating in these collaborations. We do not have information about what led investigatorsto seek out funding froom the NSF ITR program, and what the opportunity costs were of doing so across disciplinary and organizational boundries. Future work would benefit greatly from understanding the long term consequences of multiuniversity collaborations and the decision processes that underlie engaging in multi-university collaboration.	Research Policy, Vol. 36, Issue 10, pp. 1620-1634 (2007)	A / 49
De Fuentes, Claudia and Dutrenit, Gabriela	2012	Best channels of academia-industry interaction for long-term benefit	university-industry interactions, collaboration drivers, channels of interaction, benefits, innovation policy, developing countries, Mexico	Interactions between public research organizations and industry can be conceptualized as having three main stages: drivers of interaction, channels of interaction, and the perceived benefits from collaboration. Both of the agents differ in terms of the incentives they have to collaborate and the behaviors they adopt during the collaboration process. This paper discusses the impact of drivers of collaboration on channels of interaction, and the impact of these channels on the perceived benefits by researchers and firms.	Following a three-stage model based on Crépon et al. (1998), the study is based on original data collected through two surveys, carried out in Mexico during 2008, of R&D and product-development managers of firms and of academic researchers.	Our results show that all channels of interaction play an important role in determining benefits; however, they differ in terms of their impact on short- or long-term benefits for firms. The channels related to joint and contract R&D, property rights, and human resources are the best, as they have a higher impact on long-term benefits for firms.	Policy implications derived from this study focus on specific actions that enhance those researchers' characteristics related to the best channels for fostering long-term benefits for firms. This paper is based on large samples of firms and researchers. Further research might test the methodology and the findings using more complete databases for researchers and firms at a broader national level. Policy instruments such as this may help to overcome barriers to interaction, but the analysis of those impacts requires further investigation. This study has also identified some barriers that fiscal incentives have imposed on certain channels of interaction, such as the HRChannel. Encouraging firms that apply for fiscal incentives for R&D to hire recent graduates may provide improved results for innovation in this context.	Research Policy, Vol. 41, Issue 9, pp. 1666-1682 (2012)	A / 0
D'Este, Pablo; Iammarino, Simona; Savona, Maria and von Tunzelmann, Nick	2012	What hampers innovation? Revealed barriers versus deterring barriers	barriers to innovation, engagement in innovation activities, innovative firms, non-innovators	Innovating firms are likely to face several challenges and experience different types of barriers. In this paper we argue that it is necessary to distinguish between two kinds of barriers to innovation. To investigate the relationship between firms' engagement in innovation and their assessment of the barriers to innovation.	Data from the 4th UK Community Innovation Survey (CIS4); The survey sampled more than 28,000 UK enterprises with ten or more employees, and had wide sectoral coverage including both manufacturing and service sectors. Due to missing values, the number of observations is lower than 12,024 for some of these variables. To take account of non-independence of categories of barriers and the need to control for potential correlation in the error terms, we ran a Multivariate Probit Model (MPM) for the four categories of obstacles.	We show that the relationship is curvilinear in the case of costs and market barriers. Firms that engage heavily in innovative activities are more likely to assess barriers as important compared to firms that do not engage in innovation activities (the reference category), with the notable exception of "market related" barriers. The relationship between engagement in innovation activities and assessment of barriers appears to differ across the four sets of barriers. Also, the revealed or learning effect from more intensive innovation activity is more pronounced in the case of cost and knowledge barriers, showing that innovation experience generally helps to reduce uncertainty - especially in relation to cost and knowledge, but also in relation to regulation in the case of very high engagement in innovation activity. The learning effect is weak in the case of market barriers, confirming that entry barriers due to market concentration or the risk of not meeting demand expectations, do prevent firms from engaging in innovation.	A detailed analysis of the issue of demand-side innovation policy in relation to obstacles is beyond the scope of this paper, but is an item on our future research agenda.	Research Policy, Vol. 41, Issue 2, pp. 482-488 (2012)	A / 9
D'Este, Pablo and Patel, Pari	2007	University-industry linkages in the UK: What are the factors underlying the variety of interactions with industry?	university-industry interactions, variety, academic researchers, integration skills	This paper examines the different channels through which academic researchers interact with industry and the factors that influence the researchers' engagement in a variety of interactions. Despite the increased focus on the role of universities in knowledge transfer activities and their contribution to economic development, there is still little consensus in the literature about patterns of interaction with industry amongst university researchers. This paper analyses the extent to which knowledge transfer activities are spread across the academic community, by focusing on the variety of channels of interaction. In summary the aim of this paper is to investigate the factors that underlie the decision to interact with industry across a range of interaction channels using data collected from individual university researchers. In principle, this should allow us to disentangle the importance of factors associated with university-industry interactions at three levels of aggregation: the university, the department, and the university researcher.	This paper is based on a large-scale survey of university researchers in the UK aimed at obtaining information about their interactions with industrial partners. The survey asked about the importance of a variety of interactions in the period 2002–2003, including formal agreements (involving contracts between university and industry researchers) and informal networks (such as meetings and conferences).	The results show that university researchers interact with industry using a wide variety of channels, and engage more frequently in the majority of the channels examined – such as consultancy & contract research, joint research, or training – as compared to patenting or spin-out activities. In explaining the variety and frequency of interactions, we find that individual characteristics of researchers have a stronger impact than the characteristics of their departments or universities. Finally, we argue that by paying greater attention to the broad range of knowledge transfer mechanisms (in addition to patenting and spin-outs), policy initiatives could contribute to building the researchers' skills necessary to integrate the worlds of scientific research and application.	Future research should be aimed at identifying the common features among researchers who actively engage with industry, and investigating the ways in which they have managed, for instance, to establish a stable network with the wider community of potential users of their research. It should also investigate the main incentive mechanisms and motivations among university researchers for engaging in interactions with industry, together with the factors that shape the development of integration skills that contribute to resolving the conflicting interests that potentially arise between academic research and commercialisation activities.	Research Policy, Vol. 36, Issue 9, pp. 1295-1313 (2007)	A / 151

Dill, David D.	1995	University-industry entrepreneurship: the organization and management of American university technology transfer units	technology transfer, performance effectiveness, university-industry relationship	Much less consideration has been given to the successful organization and management of these emerging university 'service' units. The study presents results of a national survey of the organization, management, and perceived performance effectiveness of university technology transfer units.	Random sample of 115 institutions was drawn representing 39.7% of the overall population; These results are based upon small samples in a number of cases, and, in the analysis of managerial and organizational correlates, on a single measure of perceived unit performance.	The analysis of the survey responses focused on the organizational characteristics of the various types of units, the background of technology transfer unit managers, and the individual, managerial, and organizational correlates of perceived unit performance. Consistent with previous surveys, both licensing and patenting units, and small business development centers were found to be the most numerous technology transfer mechanisms and the most long-lived. The backgrounds of the managers of these technology transfer units reflected an expected split between professional managers and scientists. Slightly more than half of the managers had a doctoral degree; the largest single group majored in business or public administration. Simple correlations were calculated for the individual, managerial, and organizational variables previously described . While there were observable and consistent correlations between the organizational variables and perceived unit performance, none of these correlations was significant. The most significant relationships were between managerial factors and perceived performance. There was only a negligible correlation between number of individuals supervised and unit performance, again suggesting that unit size is not a critical variable.	Additional research is needed on organizational structure, financing and managerial behavior within types of technology transfer units (e.g., licensing and patenting offices), as well as on those factors reported to be critical to the success of each type of unit.	Higher Education, Vol. 29, Issue 4, pp. 369-384 (1995)	C / 12
Ding, Waverly and Choi, Emily	2011	Divergent paths to commercial science: A comparison of scientists' founding and advising activities	academic entrepreneurship, scientific advisors, commercial science, competing risks	This paper investigates the difference in the profiles of university scientists who have founded or advised companies. We investigated the question of whether university scientists who have become company scientific advisors differ in profile from those who have become company founders.	We analyzed the commercial activities of a sample of 6138 university life scientists. We constructed a case cohort sample that consists of (i) all Ph.D.-trained university scientists who have been reported in biotech firms' IPO documents as either founders or scientific advisory board members, and (ii) a stratified random sample of scientists who are university faculty members, from corresponding Ph.D. years and fields. We followed the career development, research productivity and commercial activity for a combined sample of approximately 6100 scientists. We analyzed the timing and determinants of advising and founding activities of these scientists.	Found that the profiles of scientists who become academic entrepreneurs are different from those who become companies' scientific advisors. Founding activity occurs earlier during a scientist's career than advising. Factors such as gender, research productivity, social networks and employer characteristics also differ in their effects on the propensity for founding and advising. In addition, regression analysis shows that being a company's scientific advisor decreases the probability of becoming an academic founder. Overall, evidence from our analysis suggests that founding and advising are two divergent paths for commercially oriented university scientists.	Together, these results lend more support to the view that founding and advising follows divergent paths for commercially oriented scientist, rather than the view that one is a stepping-stone for another.	Research Policy, Vol. 40, Issue 1, pp. 60-80 (2011)	A / 4
Etzkowitz, Henry	2003	Research groups as quasi-firms: the invention of the entrepreneurial university	academic entrepreneurship, technology transfer, conflict of interest, innovation	The Research University shares homologous qualities with a start-up firm even before it directly engages in entrepreneurial activities.	Keine Empirie, Literaturvergleich.	Academic entrepreneurship is both endogenous and exogenous. Endogeneity and exogeneity may be defined in terms of what is developed within an institutional sphere versus what is imported into it. The first phase of entrepreneurial science refers to the internal organization of research such as the analysis of scientific research organizations as "quasi-firms" and the resource collection system and its legitimations, e.g. the "credibility cycle". The second phase refers to the translation of the results of research into economic goods capitalization of knowledge". In a third phase, the epistemology of economics is transformed by the economics of science, including the repeal of some "limits to growth". The university's assumption of an entrepreneurial role is the latest step in the evolution of a medieval institution from its original purpose of conservation of knowledge. As universities become entrepreneurs, they do not give up their previous functions of teaching and disinterested research. Indeed, the leading universities, recognized as successful entrepreneurs in creating spinoff firms are also among the most successful competitors for federal research funds.	The academic development of the university, as in the Stanford patent pool instance or the Stony Brook incubation process, occurs in tandem with the development of a cluster of firms, assisted by public as well as private venture capital. In the US the public role in the origins of successful clusters tends to be suppressed due to ideological reasons (Eisinger, 1988). Perhaps, ironically in Europe a public role is sometimes disallowed in the mistaken belief that it is not part of the US model of firm formation that Europeans increasingly wish to emulate.	Research Policy, Vol. 32, Issue 1, pp. 109-121 (2003)	A / 212
Fabrizio, Kira R. and Di Minin, Alberto	2008	Commercializing the laboratory: Faculty patenting and the open science environment	technology management, intellectual property policy	This paper investigates the relationship between patenting and publication of research results by university faculty members. Our study adds to the limited evidence on this topic with an empirical investigation based on a panel data set for a broad sample of university researchers. This research contributes to the existing literature by providing an empirical investigation of faculty patenting and publishing with a data set containing inventors from multiple fields at many institutions in many fields across many years.	The empirical analysis relies on developing a sample of university researchers that have patented their research results and a corresponding sample of university researchers that have not patented research results. This analysis requires two data sets: data on patents for all faculty members in the inventor sample and data on publications for all faculty members in both the inventor and non-inventor (control) samples. With this data, we are able to test the competing hypotheses described above. Before assessing within faculty member changes in publications, it is interesting to briefly explore the differences across faculty members. Simple correlation coefficients across all sample members tell the basic story. In order to control for life cycle, field, and year effects, we investigate the relationship with regression analysis. Due to the count nature of the publication data, we employ a negative binomial specification. A negative binomial regression.	Publication and patenting are complementary, not substitute, activities for faculty members. This is not consistent with recent concerns regarding deleterious effects of patenting on the research output of faculty members. Average citations to publications, however, appear to decline for repeat patenters, suggesting either a decrease in quality or restrictions on use associated in patent protection. Our results confirm the results in some existing work, contradict others, and extend the existing literature. The results presented here are not consistent with the concern that the publication activity of faculty researchers would fall with increasing patenting activity. The annual number of publications by a faculty member is in fact higher following application for a successful patent, controlling for field, year, and time profile of publications by matched non-inventors. Results here demonstrate that university patents (and not corporate or unassigned patents) drive the positive relationship. This suggests that the positive relationship is not attributable to academic researchers gaining new insights and ideas from working with industry researchers. The relationship between patenting and citations to publications suggests that there is not a large-scale shift to lower quality or less impactful research following an inventor's first patent.	Further research will consider the alternative explanations for the noted increase in publications following a patent application, as well as an evaluation of possible differences across institutions of varying quality. Based on the evidence presented here, increasing faculty members' incentives to patent research results does not seem to be overwhelming the incentives for faculty members to publish their research.	Research Policy, Vol.37, Issue 5, pp. 914-931 (2008)	A / 59
Feller, Irwin; Ailes, Catherine and Roessner, David	2002	Impacts of research universities on technological innovation in industry: evidence from engineering research centers	academic research, technological innovation, engineering research centers, public policy, performance measures	NSF engineering research centers (ERCs) constitute the most upstream performer of R&D among university–industry–government research centers.	Surveys and interviews with 355 firms participating in the 18 ERCs established between 1985 and 1990; analysis of data from the surveys, telephone interviews were conducted with 20 respondents (firms), Chi-square analysis indicates that differences among ERC technological areas.	Indicate that firms participate primarily to gain access to upstream modes of knowledge rather than specific products and processes. Findings also point to problematic continuation of industrial support for ERCs following termination of NSF funding after reaching the maximum number of years (11) permitted under the program, and related pressures on ERCs to direct their research portfolios towards shorter-term, more applied research. However, the findings also indicate that for all their reported contributions to industrial R&D activities, ERCs are fragile organizational innovations.	The ERC survey questions, however, addressed a more limited span of inter-industry interaction than was explored in these other studies, which may account for the difference in findings.	Research Policy, Vol. 31, Issue 3, pp. 457-474 (2002)	A / 60

Fiedler, Marina; Welpe, Isabell; Lindlbauer, Kathrin und Sattler, Kathrin	2008	Denn wer da hat, dem wird gegeben: Publikationsproduktivität des BWL-Hochschullehrer-nachwuchses und deren wissenschaftlicher Betreuer	accumulative advantage, publication output, publication productivity, university, higher education, change, junior faculty, venia legendi	Dieser Beitrag untersucht auf der Grundlage einer Sekundärdatenerhebung, welche Faktoren die Publikationsproduktivität des BWL Hochschul-lehrernachwuchses beeinflussen. Ziel dieses Beitrags ist es aufzuzeigen, welche institutionellen und individuellen Faktoren die Publikationsproduktivität des Hochschullehrernachwuchses in der Betriebswirtschaftslehre beeinflussen. Zusätzlich wurden bezüglich des Habilitationsbetreuers mehrere Zusammenhänge mit den institutionellen Faktoren vermutet und daher in das Gesamtmodell mit aufgenommen.	Operationalisiert wurde dieses hypothetische Gesamtmodell mit jeweils zwölf Untermodellen die Nachwuchswissenschaftler sowie die zugehörigen Habilitationsbetreuer betreffend, indem zum einen zwischen A+, A und B Publikationen im Gegensatz zu allen Publikationen, sowie zwischen der Summe an Seitenzahlen in A+, A und B Publikationen im Vergleich zur Gesamtheit aller relevanten Fachzeitschriften unterschieden wurde. Zudem wurde nochmals in nationale und internationale Veröffentlichungen in Fachzeitschriften unterschieden und darüber hinaus die untersuchten Publikationen mit zwei verschiedenen Gewichtungen bewertet.Die Datenbank erfasst insgesamt 578 Personen, von denen jedoch aufgrund einer in der Zwischenzeit erfolgten Berufung bzw. des Abbruch der wissenschaftlichen Laufbahn insgesamt nur 449 Nachwuchswissenschaftler für die Datenanalyse zur Verfügung standen. Zur Datenerhebung wurde auf bereits vorhandene Datenbestände zurückgegriffen. Für die Erhebung der Publikationslisten von Nachwuchswissenschaftlern und zugehörigen Habilitationsbetreuern wurden als Quellen die Webseiten der Wissenschaftler, die WISO- Datenbank sowie die EBSCO (Business Source Premier)-Datenbank verwendet, wobei die Ergebnisse jeweils untereinander abgeglichen wurden, um eine möglichst exakte und vollständige Datenerhebung zu gewährleisten. Bivariaten Produkt-Moment-Korrelationen nach Pearson für die Nachwuchswissenschaftler; Korrelationsmatrix für die Habilitationsbetreuer betreffenden Modelle.	Die Ergebnisse zeigen, dass die Publikationsproduktivität des Habilitationsbetreuers der wichtigste Einflussfaktor für die Publikationsproduktivität eines BWL-Nachwuchswissenschaftlers ist. Weiterhin ist festzustellen, dass für nationale Veröffentlichungen in Fachzeitschriften insbesondere die Publikationsproduktivität des Nachwuchswissenschaftlers vor der Promotion ausschlaggebend ist, während für internationale Top-Publikationen der Besuch von hochwertigen Konferenzen sowie die Zugehörigkeit zu einer Universität der CHE-Reputations-Spitzengruppe signifikante Prädiktoren sind. Hinsichtlich der Publikationsproduktivität des Habilitationsbetreuers ist ein positiver Zusammenhang zwischen der Lehrstuhlgröße und seiner Publikationsproduktivität in nationalen Zeitschriften festzustellen.	Für zukünftige Forschungsvorhaben liegt es nahe, vor allem den Einfluss von hochwertigen Konferenzen und Praxistätigkeit aufgrund der dargelegten Problematik bei der Datenerhebung erneut zu überprüfen bzw. eine breitere Erfassung dieser Daten anzuregen. Auch sollte der negative Zusammenhang zwischen der Herausgebertätigkeit des Habilitationsbetreuers und der Publikationsproduktivität des zugehörigen Nachwuchswissenschaftlers einen Anstoß für weitere Nachforschungen geben. Zudem wäre für eine erweitere Erklärung der auf die Publikations-produktivität Einfluss nehmenden Größen die Ergänzung von persönlichen Merkmalen und Einschätzungen der Nachwuchswissenschaftler sinnvoll. Faktoren wie beispielsweise die wahrgenommene Unterstützung durch den Habilitationsbetreuer, die Motivation zur Publikation, die zu Verfügung stehende Zeit zur Forschung oder auch die Abiturnote sind jedoch nur durch persönliche Befragung nicht aber durch die Auswertung von Sekundärdaten zu erfassen. Aufgrund der zunehmenden Amerikanisierung des deutschen Hochschulsystems wäre ein Vergleich mit den Daten von amerikanischen Nachwuchs- wissenschaftlern ebenfalls von großem Interesse.	ZfB Zeitschrift für Betriebs-wirtschaft, 78 Jg., Heft 5, S. 477-508 (2008)	B / k.A.
Fontana, Roberto; Geuna, Aldo and Matt, Mireille	2006	Factors affecting university-industry R&D projects: The importance of searching, screening and signalling	public research organisations, university-inudstry R&D relationships, openness	This paper presents an empirical analysis of the determinants of research cooperation between firms and Public Research Organisations (PROs) for a sample of innovating small and medium-sized enterprises (SMEs). Study the determinants of firm collaboration with PROs in terms of both the propensity of a firm to undertake R&D projects with a university (do they cooperate or not) and the extent of this collaboration (number of R&D projects). Two questions are addressed. Which firms cooperated with PROs? And what are the firm characteristics that might explain the number of R&D projects with PROs?	The empirical analysis presented in this paper is based on the results of the KNOW survey and on 70 in-depth interviews carried out in 2000. Regression: analysis estimation of several negative binomial models.	The results of our analysis point to two major phenomena. First, the propensity to forge an agreement with an academic partner depends on the 'absolute size' of the industrial partner. Second the openness of firms to the external environment, as measured by their willingness to search, screen and signal, significantly affects the development of R&D projects with PROs. Our findings suggest that acquiring knowledge through the screening of publications and involvement in public policies positively affects the probability of signing an agreement with a PRO, but not the number of R&D projects developed. In fact, firms that outsource research and development, and patent to protect innovation and to signal competencies show higher levels of collaboration. Furthermore, it is extremely important to take into account that policies in support of collaboration between PROs and firms should create incentives for both sets of actors to cooperate. Current policies are mainly directed to creating incentives for PROs to interact with firms, with no acknowledgement that in the absence appropriate 'demand' little will be achieved.	Moreover, it must be noted that our dependent variable refers to the number of R&D projects established in the 3 years preceding the survey. A bigger window would probably have produced a less skewed distribution since firms that record 0 projects may have recorded engagement in R&D projects with PROs for a longer time span.	Research Policy, Vol. 35, Issue 2, pp. 309-323 (2006)	A / 117
Frasquet, Marta; Calderon, Haydee and Cervera, Amparo	2012	University-industry collaboration from a relationship marketing perspective: an empirical analysis in a Spanish University	university-industry relationships, relationship marketing, communication, collaboration, commitment	Building relationships between universities and industry bodies is of prime importance for creating value for universities' stakeholders. This paper focuses on relationships in relation to undergraduate internship programmes in the Social Sciences. This study can be an interesting contribution to the study of U–I relations as it has revealed the factors that contribute to greater collaboration and commitment between universities and industry bodies to carry out undergraduate internship programmes.	Using the relationship marketing approach, we analyze this type of collaboration of firms with a large public Spanish University. We build and test a structural equations model. The variables included in our questionnaire are based on extant scales from the literature with minor adaptations to fit the context of our study. Our sample was determined by an initial database provided by ADEIT that included 1424 companies that collaborated with the University of Valencia in the area of Social Sciences. Out of these companies we then selected the ones that collaborate with the undergraduate internship program, one of the most frequent forms of U–I collaboration. Our analysis followed a two-step procedure as recommended by Gerbing and Anderson (1988). In the first step, confirmatory factor analysis (CFA) was applied to analyze the quality of the measurement instrument (measurement model). In step two, the theoretical (causal) model of interest was tested. We used SPSS for descriptive analysis and to test the simultaneous equations model through the robust maximum likelihood method. We had six latent variables: trust, satisfaction, commitment, functional conflict, communication, and collaboration, which were measured by 23 manifest indicators. Commitment was operationalized as a second-order construct that is reflected on three first-order constructs: affective commitment, expectation of continuity, and willingness to invest, following the approach of Kumar et al. (1995).	Results show that communication is a key building block of relationships, having a positive effect on satisfaction with the relationship, trust and functionality of conflict, and that trust and commitment increase the level of collaboration of firms with universities. The results show that satisfaction is an antecedent to commitment and trust in U–I relations. A positive relationship between functional conflict and commitment to collaboration has also been found. However, we have not found a direct relationship between satisfaction and collaboration and between trust and commitment.	This study presents some limitations due to the type of relationship investigated and the sample being limited to U–I collaboration in the area of Social Sciences within a single university. As future lines of research we propose extending the scope of relationships to research based collaboration and to the areas of Science and Technology as well as to a greater number of universities. Regarding the variables affecting U–I relations, the model could include other variables such as university reputation or duration of the relationship, which could act as moderating variables in the model.	Higher Education, Vol. 64, Issue 1, pp. 85-98 (2012)	C / 3
Freitas, Isabel; Geuna, Aldo and Rossi, Federica	2013	Finding the right partners: Institutional and personal modes of governance of university-industry interactions	university-industry interactions, academic consulting, open innovation, governance, technology transfer	We study two different governance modes of university–industry interactions: in the institutional mode, interactions are mediated by the university through its administrative structures (such as departments or dedicated units such as technology transfer offices), while in the personal contractual mode interactions involve formal and binding contractual agreements between firms and individual academics, carried out without the direct involvement of the university. We argue that the choice of which form of governance to adopt involves different decision-making processes for firms and that both governance forms have important roles to play in the context of university–industry knowledge transfer. Examine the characteristics and strategies of firms that interact with universities under different governance modes.	Representative sample of firms in the Italian region of Piedmont (1052 valid responses); In our regression analysis, we test whether our expectations about the relationships between firm characteristics and choice of governance form for university–industry interactions, which were outlined in Section 2, are supported by the empirical data. To examine the firm's choice of governance form for university–industry interactions, we use the multinomial logit estimation model.	Our results indicate that ignoring personal contractual arrangements with individual researchers, as the previous literature does, amounts to overlooking at least 50% of university–industry interactions. The econometric estimations suggest that personal contractual interactions are used relatively more by small firms involved in technology and open innovation strategies, while institutional interactions are mostly used by large firms that vertically integrate R&D activities. Large firms with strong absorptive capacity are only more likely to engage in institutional collaborations, but not more likely to engage in personal contractual interactions with university researchers.	Firms that engage in institutional interactions with universities may also use personal contracts, and the two forms of interaction can be complementary. Further research is needed to examine the specific contribution to the process of knowledge development and the integration of the different forms of interaction with university research.	Research Policy, Vol. 42, Issue 1, pp. 50-62 (2013)	A / 0

Friedman, Joseph and Silberman, Jonathan	2003	University Technology Transfer: Do Incentives, Management, and Location matter?	university, technology transfer	To examine the determinants of technology transfer and to empirically measure the impact of university organizational practice and environmental factors on the success of university TTOs.	The data source for the university technology transfer outputs is the Association of University Technology Transfer Managers (AUTM) Annual Licensing Survey. Selected list of 20 Universities; we use data for the years 1997–1999; we use regression analysis,	Our analysis strongly support four factors, not previously examined in the literature, enhancing university technology transfer: greater rewards for faculty involvement in technology transfer, location of the university in a region with a concentration of high technology firms, a clear university mission in support of technology transfer and the experience of the university's technology transfer office. Entrepreneurial climate, measured by the Milken Foundation Tech-Pole Index, has a positive and statistical significant impact on all outputs from university technology transfer. The findings on the distribution of royalty income, while suggesting that higher payouts to inventors yield greater technology transfer outputs, were not as strong as anticipated. Our results indicate that distributing royalty income for general universities purposes reduces the income available to the inventor and has a negative impact on TTO performance. The most important factor influencing license agreements from the TTO is the number of invention disclosures available for licensing. The only factor input in the invention disclosure equation with elasticity of one is faculty quality.	A simultaneous equation model might improve the parameter estimates and better isolate the complex channels through which faculty quality, invention disclosures, funded research, and size of the TTO all influence the university technology transfer outputs.	Journal of Technology Transfer, Vol. 28, Issue 1, pp. 17-30 (2003)	B / k.A.
Gaul, Richard	2002	Warum gibt die Industrie Drittmittel an die Hochschulen?	funding, industry, universities	Was ein Unternehmen wie BMW für die Wissenschaft tut und wie wir mit Universitäten zusammenarbeiten. Die Universität, die Fakultät oder das Institut, die mit uns in Kontakt treten, haben ein Produkt anzubieten; ein Produkt, das wir nicht haben, Forschung in einem Feld, das wir nicht beherrschen; Forschung in Feld, das wir in dieser Art nicht erforschen können, für das uns als Unternehmen das Know-how fehlt.	Keine Emirie; Expertenbeitrag	Wir sind demzufolge daran interessiert, mit Hilfe von Universitätsinstituten Kenntnisse zu sammeln, die wir verwerten können. Das tun wir weil wir daran interessiert sind, dass es in München einer der besten Fakultäten für Maschinenwesen gibt. Dort sollen die Studenten ihr Studium absolvieren, die sich demnächst bei uns (BMW) bewerben, bevor sie sich in Stuttgart oder gar in Wolfsburg umschauen. Wir haben also in der Regel ein technisches Eigeninteresse in der Zusammenarbeit mit Universitäten. Wir haben ein Projekt mit der Freien Universität Berlin mit dem Auftrag, neue Perspektiven in der Pädagogik zu erforschen. In Bayern gibt es etwa zehn Schulen, an den neue Lehrinhalte erprobt werden. Dies wird von einem Institut der Freien Universität Berlin wissenschaftlich begleitet mit dem Ziel, daraus in ein bis zwei Jahren eine Vorlage für die Kultusminister-konferenz zu machen mit dem Ziel, die Schulen und ihre Lerninhalte praxisnäher zu gestalten. Auch das tun wir im eigenen Interesse. Mit Blick auf den Standort Deutschland müssen wir Interesse daran haben, hochqualifiziert ausgebildete Mitarbeiter auf allen Schulstufen zu gewinnen. Wir fördern insgesamt die für uns interessante Forschung, weil wir sozusagen Kunden, Nachfrager bei den Universitäten sind. Deshalb geben wir unsere Drittmittel.	k.A.	Beiträge zur Hochschul-forschung, 24. Jg., Heft 2, S. 112-113 (2002)	k.A. / k.A.
Giuliani, Elisa; Morrison, Andrea; Pietrobelli, Carlo and Rabellotti, Roberta	2010	Who are the researchers that are collaborating with industry? An analysis of the wine sectors in Chile, South Africa and Italy	wine sector, innovation system, academic researchers, university industry linkages	Research on University–industry (U-I) linkages and their determinants has increased significantly in the past few years. However, there is still controversy on the key factors explaining the formation of U-I linkages, and especially related to individual researcher characteristics. This paper provides new empirical evidence and, in particular, looks at the importance of researchers' individual characteristics and their institutional environments in explaining the propensity to engage in different types of U-I linkages.	Based on an original dataset, we present new evidence on three wine producing areas – Piedmont, a region of Italy, Chile and South Africa – that have successfully responded to recent structural changes in the industry worldwide.	Empirical findings reveal that researchers' individual characteristics, such as centrality in the academic system, age and sex, matter more than publishing records or formal degrees. Institutional specificities at country level also play a role in shaping the propensity of researchers to engage with industry.	Future studies should explore, in greater depth, the existence of a trade-off between quality of scientific publications and U-I linkages for the younger generations of academic scholars. Although this is one of few studies that use cross-country data,we do not investigate the com- parative institutional aspect in great depth, and believe that this is an area that deserves future investigation.	Research Policy, Vol. 39, Issue 6, pp. 748-761 (2010)	A / 17
Glubrandsen, Magnus and Smeby, Jens-Christian	2005	Industry funding and university professors' research performance	university research, research funding, research performance, university-industry relations, academic entrepreneurship	University research is to an increasing extent funded by industry, and the share of basic funding is decreasing. In the literature, there are optimistic and pessimistic views on the implication of this development. This article has examined the relationship between commercialisation of research and professors' research performance.	Based on data from a questionnaire study among all tenured university professors in Norway (N= 1967). Bivariate relationships between research funding and the indicators; logistic regression analyses of the probability to report different types of commercial output are presented. Demographic variables, external funding, research collaboration, publications and academic field are included as independent variables.	We find that there is a significant relationship between industry funding and research performance: professors with industrial funding describe their research as applied to a greater extent, they collaborate more with other researchers both in academia and in industry, and they report more scientific publications as well as more frequent entrepreneurial results. There is neither a positive nor negative relationship between academic publishing and entrepreneurial outputs.	Important issues for further research are to explore the conflict and nexus between academic publishing and different types of entrepreneurial activities and how much professors may engage in entrepreneurial activities before, if ever, it causes problems for their academic performance. Furthermore, even if there is no significant negative relationship between patenting and publishing on the individual level, the effects on the system level should also be examined. As demonstrated in the data section we probably have a bias in our data in direction of elite performers academically as well as commercially. To shed light on unintended consequences of funding structures there may also be a need for studies of the trajectories of the less successful. Finally, the "skewing problem" is an important issue for further research. Our data indicate that industrial funding is related to applied research.	Research Policy, Vol. 34, Issue 6, pp. 932-950 (2005)	A / 122
Godin, Benoit and Gingras, Yves	2000	The place of universities in the system of knowledge production	university, knowledge production, institution	In the last 5 years, some authors have argued that the system of knowledge production has undergone important changes, and have predicted that universities would no longer be the main locus of knowledge production. The present paper shows that though we observe a diversification of the sites of knowledge production, universities remain at the center of the system, while the growth of the other sectors hospitals, industries and governments laboratories is strongly linked to universities.	Documents were then classified by subject area, using the classification system developed by Computer Horizon CHI . CHI's system, unlike the SCI's, never places a journal in more than one subject area, thus avoiding double counting. The classification includes eight major subject areas which are divided into more than 100 specialities.	Using the concept of presence, that is, the participation of a sector to the total number of scientific papers published in a given country, we have shown that despite a real diversification of loci of production, the presence of universities in the production of scientific research does not diminish in time.	One could argue that our analysis is based on formal collaborations in journals surveyed by the SCI and that this database does not necessarily reflect the tendency toward application-oriented research produced by collaborations.	Research Policy, Vol. 29, Issue 2, pp. 273-278 (2000)	A / 90
Goldfarb, Brent	2008	The effect of government contracting on academic research: Does the source of funding affect scientific output?	science policy, reputation, academic research, science careers, university-industry interface	The growing share of university research funded by industry has sparked concerns that academics will sacrifice traditional scholarly activities to pursue commercial goals. To investigate this concern, I examine the influence of an applied sponsor and consider limitations of the grant funding mechanism.	A novel dataset tracks the careers of academic engineers and their relationships withthis sponsor. The empirical section first establishes that survival of a relationship with the NASA program is not associated with high levels of academic reputation. I then use a first differences framework to explore whether continued association with a directed sponsor as opposed to an alternative sponsor is correlated with a reduction of academic output, as measured by publications and citations.	I find that (a) researchers who maintain a relationship with the directed sponsor experience a decrease in publications implying that academics' careers may be a function of the type of funding received, not only talent; (b) academic merit does not necessarily serve as a funding criterion for sponsors; and (c) citation and publication measures of academic output are often not useful proxies for short-term commercial or social value. Considering that such a large percentage of academic research funds are directed, this phenomenon is pervasive and deserves more attention from both scholars of technological change and policy makers.	It is also possible that the nature of NASA grants changed during this time. Again, my data do not address this possibility. Although numerous interviews provided no indication that this was the case, prudence would require further examination.	Research Policy, Vol. 37, Issue 1, pp. 41-58 (2008)	A / 30

Häussler, Carolin	2011	Information-sharing in academia and the industry: A comparative study	information sharing, academia, social capital theory, reciprocity	This paper investigates how scientists decide whether to share information with their colleagues or not.	Detailed data on the decisions of 1,694 bio-scientists allow to detect similarities and differences between academia-based and industry-based scientists. Arguments from social capital theory are applied to explain why individuals share information even at (temporary) personal cost.	In both realms, the results suggest that the likelihood of sharing decreases with the competitive value of the requested information. Factors related to social capital, i.e., expected reciprocity and the extent to which a scientist's community conforms to the norm of open science, either directly affect information-sharing or moderate competitive interest considerations on information-sharing. The effect depends on the system to which a scientist belongs.	First, the findings are based on survey data. As with all studies based on survey data, I nannot exclude the possibility that my results suffer from"common method bias". Second, my study is focused on the bio-scientific field. I hope that future research will extend my findings, which focused on the bio-sciences, to a larger number of settings. Furthermore, while I have shown that norms-based mechanisms support information-sharing, I have no data on whether norms-based behavior pays off.	Research Policy, Vol. 40, Issue 1, pp. 105-122 (2011)	A / 13
Hessels, Laurens K. and van Lente, Harro	2008	Rethinking new knowledge production: A literature review and a research agenda	Mode 2, transdisciplinarity, heterogeneity, relevance	This paper offers a systematic reflection on the Gibbons–Nowotny notion of 'Mode 2 knowledge production'. We review its reception in scientific literature and compare it with seven alternative diagnoses of changing science systems. The main proposition of the study is the emergence of a knowledge production system that is 'socially distributed'.	Review of alternative accounts and criticisms. Our comparison with alternative diagnoses of the dynamics of contemporary science systems.	Shows that the Mode 2 diagnosis of contemporary dynamics of scientific practice contains some adequate claims, and that some claims seem doubtful (the rise of transdisciplinarity, reflexivity and novel modes of quality control). The conclusion of this paper is that the viability of an aggregate Mode 2 claim that is constituted by five attributes is limited.	Our review shows that it is time to disconnect the five major constitutive claims and to investigate them separately.	Research Policy, Vol. 37, Issue 4, pp. 740-760 (2008)	A / 107
Hicks, Diana	2012	Performance-based university research funding systems	PRFS, research policy, transparency, data	This paper seeks to find general lessons in the accumulated experience with PRFSs that can serve to enrich our understanding of how research policy and innovation systems are evolving. The paper also links the PRFS experience with the public management literature, particularly new public management, and understanding of public sector performance evaluation systems. PRFSs were found to be complex, dynamic systems, balancing peer review and metrics, accommodating differences between fields, and involving lengthy consultation with the academic community and transparency in data and results.	This analytical review attempts to further this collective effort by identifying common themes emerging from in-depth analyses of individual PRFSs.	Although the importance of PRFSs seems based on their distribution of universities' research funding, this is something of an illusion, and the literature agrees that it is the competition for prestige created by a PRSF that creates powerful incentives within university systems. The literature suggests that under the right circumstances a PRFS will enhance control by professional elites. PRFSs since they aim for excellence, may compromise other important values such as equity or diversity. They will not serve the goal of enhancing the economic relevance of research.	Finally, there may be other methods to achieve research excellence and future research should seek to compare the effectiveness of the different methods in achieving the primary, stated goal of PRFSs – increasing the excellence of a nation's research.	Research Policy, Vol. 41, Issue 2, pp. 251-261 (2012)	A / 27
Hofreither, Markus und Vogel, Stefan	2008	Die intrinsische Motivation zu wissenschaftlicher Arbeit als Problem von Universitätsorganisation und Leistungsmessung	Universität, Universitäts-organisation, Ordinarien-universität, unternehmerische Universität, intrinsische Motivation, Leistungsmessung, wissenschaftliche Arbeit	Dieser Beitrag hat die organisatorischen Veränderungen an Österreichs Universitäten während der letzten 40 Jahre zum Gegenstand. Dieser Beitrag befasst sich mit den Vor- und Nachteilen der unterschiedlichen universitären Organisationsformen seit den 60er Jahren und setzt sie mit der aktuellen Situation in der österreichischen und europäischen Hochschullandschaft in Beziehung. Anhand der Unterschiede der verschiedenen Organisationsformen in Bezug auf die Umstände und Anreize für universitäres Arbeiten wird der Frage nachgegangen, wie die bereits von Max Weber identifizierte zentrale Voraussetzung für „Wissenschaft als Beruf" – die Leidenschaft zum wissenschaftlichen Arbeiten – durch die aktuellen Veränderungen beeinflusst wird.	Der Weg von der Ordinarienuniversität zur unternehmerischen Universität wird nachgezeichnet und die Chancen und Risiken einer Vermarktlichung der Koordinationsmechanismen an der Universität werden diskutiert.	Probleme werden insbesondere bei der Messung und Steuerung wissenschaftlicher Leistung geortet. Als besonderes Risiko der unternehmerischen Universität wird die Verdrängung innerer Motivation durch äußere Motivation im Handeln von WissenschafterInnen gesehen.	Ob grundsätzlich Universitäten ihrer gesellschaftlichen Aufgabe besser nachkommen, wenn das Ethos des wissenschaftlichen Arbeitens durch kluges Marktverhalten ersetzt wird, ist eine Frage, die von der Zukunft beantwortet werden wird.	Zeitschrift für Hochschul-recht, Hochschulmanagement und Hochschulpolitik - zfhr, Vol. 7, Issue 3, pp. 63-69 (2008)	k.A. / k.A.
Hornbostel, Stefan	2001	Third party funding of German universities. An indicator of research activity?	third party funding, German universities, data, research performance	This article focusses on third party funding of research in German universities. The central question is, whether funding data can function as suitable indicators for the measurement of research performance of university departments.	After a brief description of the importance and the extent of third party funding in the German system of research funding, the quality of data is discussed and the funding indicator is compared with bibliometric indicators.	Resultened, one can say that in subjects where external funding of research is usual, the funding indicator points to the same direction as other indicators do. Because of the peer review process involved in grant awarding, a funding indicator is in many subjects a suitable indicator to evaluate R&D impacts.	Admittedly, a funding indicator also reports investments in infrastructure and technical equipment, so that such an indicator should be used together with bibliometric or patent indicators in a way that will compensate the shortcomings of each.	Scientometics, Vol. 50, Issue 3, pp. 523-537 (2001)	k.A. / 16
Hottenrott, Hanna and Thorwarth, Susanne	2011	Industry Funding of University Research and Scientific Productivity	industry, university, research, productivity	While from a private-sector perspective, the benefits from collaborating with academia are found to be unambiguously positive, the effects on the scientific sector were not as clear. This study aimed at filling a gap in the literature by providing insights on the effects of industry funding on scientific productivity. This study aims to add to previous research by studying the effects of industry sponsoring on scientific productivity. Analysis aims to shed light on the effects of industry funding on scientific productivity.	Our data contains information on laboratory and funding characteristics as well as on publication and patent output for 678 science and engineering professors at 46 different universities in Germany. In order to investigate the relationship between funding and research output, we estimate count data models. Poisson regressions on the publication output indicators.	The results show that the share of industry funding of the scientists total budgets has reached a point (already in 1999 and shares have been increasing ever since) that is sufficiently high to negatively affect publication output. We do, however, observe a significant positive effect on their impact in terms of forward citations to those patents.	It could be argued that there is a bias in direction of above-average performers as our sample comprises information on "heads of research units" only. Further, we do not know from how many different firms funding had been obtained and we cannot make any judgment on the effects on research content. Future research could assess the effects on the scientists' research content measured by changes in journal types and patent classifications. Finally, it should be kept in mind that the results may depend on the institutional setting in Germany where university research traditionally has been predominantly financed by public sources and where the increase in industry sponsorship had been most significant.	Kyklos 2011, Vol. 64, Issue 4, pp. 534-555 (2011)	B / 7
Jaffe, Adam B.; Trajtenberg, Manuel and Fogarty, Michael S.	2000	Knowledge spillovers and patent citations: Evidence from a survey of inventors	communication, managers, knowledge spillovers, patents, survey	Very little of this research has attempted to determine the modes or mechanisms of communication that actually permit knowledge to flow. Further, most of the work has simply assumed that citations or other proxies are sufficiently correlated with knowledge flows to allow statistical analysis of the proxies to be informative regarding the underlying phenomenon of interest. This paper tries to improve the situation.	The idea for this survey came from R&D managers whom we were interviewing to test whether the picture of knowledge flows produced by patent citations was consistent with the managers' impressions.	We discuss here the responses to four questions asked of the citing inventors about their cited and "placebo" patents. One of the questions sought responses on a Likert scale to a question regarding the overall degree of familiarity of the citing inventor with the cited invention. For the patents that were in fact cited, 28% of the responses indicated a 4 or 5 on the Likert scale, indicating a significantly high familiarity; just under half of the respondents rated their familiarity at the low end of the scale. In contrast, over 80% of the respondents rated their familiarity with the "placebo" patent at the lowest possible level.	Many of the important concepts in the economics of technological change are fundamentally unobservable. We routinely rely, therefore, on proxies or indicators for the concepts of interest. Often, our only test of the validity of these measures is the extent to which the proxies are correlated in the way that our theory says that their underlying concepts should be. Further work is needed, however, to refine our understanding of the mechanismby which these flows move and the relationship of those mechanism to the citation process.	The American Economic Review, Vol. 90, No. 2, pp. 215-218 (2000)	A+ / 159

Jain, Sanjay; George, Gerard and Maltarich, Mark	2009	Academics or entrepreneurs? Investigating role identity modification of university scientists involved in commercialization activity	academic entrepreneurship, role identity, identity work, technology transfer policy	Establishing the microfoundations of academic entrepreneurship requires closer scrutiny of a key actor contributing to this phenomenon—the university scientist. We investigate the sense-making that scientists engage in as part of their participation in technology transfer and postulate that this process involves a potential modification in their role identity. This study attempts to provide a deeper understanding of the subjective experiences and related identity work of university scientist's engaged in technology transfer. We believe that prior studies have either underemphasized or oversimplified the nature of involvement of these individuals in such activity.	We analyzed more than 70 h of interview data at a premier U.S. public research university. We conducted an inductive study involving over 40 h of in-depth personal interviews of scientists and technology transfer specialists employed at a large public Midwest research university and its technology transfer office. All of the 20 scientists interviewed were tenured faculty, had been involved in some form of commercialization activity and had interacted with the TTO. By engaging in theoretical sampling, our intent was to capture the integral aspects; Initially, our interviews were unstructured and helped us gain an understanding of the issues associated with university commercialization as well as the idiosyncratic nature of research conducted across departments within the university. Subsequently, we employed a semi-structured approach that facilitated free expression of ideas as well as allowed us to infer themes and compare them across interviews. We used a pooled logic approach to theory building that treats each observation as being part of a larger sample from which patterns are discerned.	We observe that scientists invoke rationales for involvement that are congruent with their academic role identity. They typically adopt a hybrid role identity that comprises a focal academic self and a secondary commercial persona.We delineate two mechanisms – delegating and buffering – that these individuals deploy to facilitate such salience in their hybrid role identity. Overall, these patterns suggest that university scientists take active steps to preserve their academic role identity even as they participate in technology transfer. Our findings clarify the social psychological processes underlying scientist involvement in commercialization activity, and offer fresh insights to the academic entrepreneurship, science policy and role identity literatures.	Some important limitations in the design of this study that we need to acknowledge. First, all of our interviewees belong to single large public research university in the United States that has a well-established TTO. Second, our sample consists of scientists engaged in commercialization who have (largely) spent their careers within academia. It would be interesting to compare and contrast role identity modification of these individuals with those that choose not to get involved, failed to get their commercialization initiatives going or left academia to do so. A fine-grained characterization of the key hybrid role identity archetypes that university scientists adopt would be a logical next step; future research employing social-psychological and cognitive lenses to understand the micro-mechanisms driving academic entrepreneurship.	Research Policy, Vol. 38, Issue 6, pp. 922-935 (2009)	A / 52
Jansen, Dorothea; Heidler, Richard und von Görtz, Regina	2009	Ungleiche Chancen im Wissenschaftssystem: Artefakt oder Realität?	Forschung, Forschungspolitik, Wettbewerb, Drittmittel, Matthäus-Prinzip, Wissenschafts-soziologie, Wissenschafts-forschung, Wissenschafts-system	Der Artikel "Herausbildung einer akademischen Elite? Zum Einfluss von Größe und Reputation von Universitäten auf Forschungsförderung" von Katrin Auspurg, Thomas Hinz und Jürgen Güdler setzt sich kritisch mit der von Richard Münch vertretenen These der Monopolisierung von Forschungschancen im deutschen Wissenschaftssystem auseinander.	Kritische Auseinandersetzung.	Problematische Tendenzen für das Wissenschaftssystem, so unsere und Münchs Vermutung, gehen jedoch eher von koordinierten Programmen und der Exzellenzinitiative aus.	In dem Beitrag wird allerdings für die Analyse ein zur Widerlegung von Münchs These wenig geeigneter Gegenstand gewählt, das DFG-Normalverfahren. Zudem gelingt es in dem Beitrag nicht, die Analyse in einen breiteren Kontext der Funktionen und Auswirkungen der wachsenden Rolle der Drittmittelförderung im Wissenschaftssystem zu stellen.	KZFSS - Kölner Zeitschrift für Soziologie und Sozia-lpsychologie, Vol. 61, Issue 3, pp. 463-467 (2009)	k.A. / k.A.
Jha, Yamini and Welch, Eric W.	2010	Relational mechanisms governing multifaceted collaborative behavior of academic scientists in six fields of science and engineering	multifaceted collaboration, relational, homophily, heterophily, scientists	This paper examines the extent to which multifaceted collaboration is attributable to relational aspects of individuals' networks. Specifically, we ask the question: what relational aspects of social capital determine multifaceted collaboration among scientists in six fields of science and engineering?	Borrowing literature from social capital and science and technology (S&T) human capital, this paper develops a multi-level model of multifaceted collaboration and presents a set of testable hypotheses. Then using data from a national survey of men and women faculty in six fields, we analyze the multi-level data: relationship or dyad level (level 1) and ego level (level 2) with hierarchical linear modeling (HLM) to predict multifaceted collaboration of academic scientists. Multi-level analysis or hierarchical linear modeling (HLM) can be viewed as a modified version of multiple linear regression designed to deal with data with a hierarchical nested structure.	Findings show that some relational characteristics explain multifaceted collaborative behavior as predicted, while others behave in unexpected ways. Gender homophilous dyads are less likely to be multifaceted than gender heterophilous dyads, and therefore less likely to access assets and apply them through multifaceted collaboration. Also contrary to expectations, peers compared to non-peers are less likely to conduct multifaceted collaborations. Possibly this is the result of complementary skills, abilities, interests and resources that exist between status heterophilous pairs. Ultimately, these findings tend to show that homogeneity does not consistently predict collaborative interaction. New norms of science that demand greater complexity of interaction and activity may also encourage complementary heterogeneous pairings among scientists in ways that provide access to and application of network-embedded resources. Some heterogeneous dyads may be more able to create complementary science products that have a broader range of characteristics and objectives. Gender heterophily and status heterophily are two possible expressions of complementary heterogeneous pairing. On the other hand, the findings do not show the dominance of heterophily.	Future research should more fully explore the interactions among status and gender heterophily as they affect science outcomes. It should also more carefully explore the range of homophilous and heterophilous contributors to collaborative interaction.	Research Policy, Vol. 39, Issue 9, pp. 1174-1184 (2010)	A / 4
Just, Richard E. and Huffman, Wallace E.	2009	The economics of universities in a new age of funding options	Bayh–Dole Act, privatization, optimal university behaviour, public good research, private good research	The environment in which universities in the United States and some other countries operate has been changing, creating discussion of privatization of public universities. This paper examines the implications for US universities of greater access to royalties for federally funded, private-goods research, and reduced government grants or transfers to support public-goods research. Conditions under which increased private-goods research for out-of-state firms (developing patents and private market applications) leads to higher tuition and reductions in instruction and basic research are developed.	Analysis, data on public service expenditure, models, implications, conditions of private good research.	The likely outcome is greater privatization of public universities, which may lead to a new public–private structure for what have been the leading US public research universities.	Limited to the United States.	Research Policy, Vol. 38, Issue 7, pp. 1102-1116 (2009)	A / 6
Kempen, Bernhard	2012	Unparteilich, weil unparteiisch - Über die Rolle der Wissenschaft zwischen Politikberatung und dem Kampf um Drittmittel	Wissenschaft, Politikberatung, Drittmittel	Wissenschaft muss ergebnisoffen und ungebunden sein. Sie darf von nichts und niemandem in Dienst gestellt werden. Ist ihre Unparteilichkeit bedroht, betrifft dies zugleich ihr Selbstverständnis. Grund genug, sich auch ohne aktuellen Skandalfall eines parteilichen Wissenschaftlers mit dem Thema auseinanderzusetzen.	Keine Emirie; Expertenbeitrag	Wissenschaft steht nicht im Dienst irgendeiner Partei, keiner politischen Partei, keiner gesellschaftlichen Gruppe, weder im Dienst von Arbeitgebern, noch von Arbeitnehmern, nicht einmal im Dienst von Werten oder Idealen. Sie lässt sich von nichts und niemandem vereinnahmen, sie ist unparteilich, denn nur so kann sie unparteiisch sein. Nicht jede Politikberatung durch einen Wissenschaftler ist wissenschaftliche Politikberatung. Deren Kennzeichen wäre nämlich, dass sie gerade nicht „interessengeleitet" oder „gebunden" ist, sondern ergebnisoffen und ungebunden. Die Relation von staatlichen Grundmitteln zu Drittmitteln in den letzten Jahren rasant in Richtung Drittmittel verschoben. Die Drittmittel, über die sich alle freuen, sind zur neuen Währung wissenschaftlicher Reputation geworden.	Aber müssen wir in unserer Drittmitteleuphorie nicht alle miteinander innehalten und uns die Frage stellen, ob die Unparteilichkeit der Wissenschaft unter dem Drittmittelsegen nicht auch Schaden nehmen könnte? Dürfen wir annehmen, dass die Unparteilichkeit der Wissenschaft unter dem enorm gewachsenen Erwartungsdruck, dem jeder Wissenschaftler ausgesetzt ist, erhalten und bewahrt werden kann?	Forschung & Lehre, 19/5, S. 372-373 (2012)	E / k.A.
König, Bettina; Diehl, Katharina; Tscherning, Karen and Helming, Katharina	2013	A framework for structuring interdisciplinary research management	interdisciplinary, research management, coordination, sustainability	This paper presents an Interdisciplinary Research Management Framework that makes coordinator functions explicit and plausible.	Competing Values Framework, empirical investigations.	The framework can facilitate the structured planning, conducting and evaluating of management activities for large interdisciplinary projects. It can be a practical tool for project leaders and scientific administrators, but may also help to facilitate further academic discussion on interdisciplinary research management.	The production of results dependent on information transfers between project consortia and target arenas (e.g. the science policy interface) remains a major challenge. In any case, a re-invention of the wheel process, in the sense of personal and project-specific learning, still seems to be somewhat necessary for organising context-specific, temporary interdisciplinary research programmes.	Research Policy, Vol. 42, Issue 1 , pp. 261-272 (2013)	A / 4

Krücken, Georg; Meier, Frank and Müller, Andre	2007	Information, cooperation and the blurring of boundaries - technology transfer in German and American discourses	comparison of US and Germany, entrepreneurial universities, innovation networks, political cultures of innovation, university–industry cooperation	The aim of this paper is to examine changing discursive conceptualizations of technology transfer mechanisms for speeding up innovation in Germany and the US since World War II with particular emphasis on universities.	No empirical analyse. The information and documentation model. The cooperation model. The blurring of boundaries model. Studies of technology transfer that were conducted under the I & D model suggested the limitations of such a model for speeding up the innovation process. Taking this insight into account, the cooperation model emphasizes that science and technology transfer can only be successful if scientists and practitioners actively exchange their ideas through immediate personal contact. While the cooperation model takes for granted – and even emphasizes – clear institutional boundaries between science and the economy, the BoB model assumes that these boundaries are becoming increasingly permeable, diffuse and, in some cases, ‘‘blurred’’.	According to our analysis, the concepts of technology transfer are getting more and more complex, taking off from a linear model of innovation to a more complex model allowing for networking and entrepreneurial activities of the universities themselves. We suggest that the discourses in both countries can be framed employing three ideal-typical models: the information and documentation model, the cooperation model, and the blurring of boundaries model. In addition to these similarities, we also discuss differences that can be traced back to broader political cultures in which technology transfer is embedded. Both similarities and differences allow for a comparative perspective which is not limited to the countries analyzed here. Our analysis has brought attention to equally strong differences. While in Germany the three models succeed each other in a clear chronological order, the American picture is more strongly marked by overlapping models, in which, beginning with the I &Dmodel, aspects of subsequent models are added in piecemeal fashion. In addition, some more specific differences have become obvious. According to our analysis, rules and regulations are the most important elements framing the American discourse.	Thus, although both the German and American national discourses show a common trend towards the blurring of boundaries between academia and industry, in an individualist polity, like the American one, the entrepreneurial university and the entrepreneurial researcher have become the dominant role model, while in a ‘‘neo-corporatist’’ polity, like the German one, a comprehensive innovation network is seen as the way to success. This opens up interesting questions concerning international comparisons in higher education and innovation policy, which go far beyond the cases we analyzed here.	Higher Education, Vol. 53, Issue 6, pp. 675-696 (2007)	C / 8
Kyvik, Svein	1995	Are big university departments better than small ones?	university, research, productivity	The aim of this article is to examine whether large university departments create better opportunities for research than small ones.	The data are drawn from a questionnaire study among all faculty members of the rank of assistant professor or higher at Norway's four universities.	There is no significant relationship between department size and productivity in scientific publishing. Furthermore, there is a tendency that faculty in the smallest departments are more content with the research environment than their colleagues in the largest departments.	There are, however, large differences between fields of learning in this respect.	Higher Education, Vol. 30, Issue 3, pp. 295-304 (1995)	C / 24
Landry, Rejean; Amara, Nabil and Lamari, Moktar	2001	Utilization of social science research knowledge in Canada	Research , knowledge	This paper addresses three questions: What is the extent of the use of social science research in Canada? Are there differences between the social sciences disciplines regarding extent of use? What are the determinants of utilization of social science research knowledge in Canada?	The paper develops and tests an empirical model that derives its dependent and independent variables from prior studies in knowledge utilization. Instead of limiting utilization to instrumental use, the paper defines utilization as a six-stage cumulative process. Based on a survey of 1229 Canadian social science scholars, multivariate regression analyses; The utilization of social science knowledge is examined by using six categories of explanatory variables: types of products, adaptation of products to users, dissemination efforts, linkages with users, perceptions of users’ context and researchers’ context. The dependent variable refers to the different stages of utilization defined in the Knott–Wildasky scale of knowledge utilization Knott and Wildasky, 1980.	The findings of this study show that nearly half of the research results lend to some use by practitioners, professionals and decision-makers. Furthermore, comparisons of means of utilization show that the professional social sciences social work and industrial relations lend to higher levels of utilization than the disciplinary social sciences economics, political science, sociology and anthropology. Multivariate regression analyses show that the most important determinants of utilization are the mechanisms linking the researchers to the users, the dissemination efforts, the adaptation of research outputs undertaken by the researchers, the users’ context and the publication assets of the researchers. The other explanatory factors exert a more mitigated influence on knowledge utilization. Overall, the most important finding of this paper is that knowledge utilization depends much more heavily on factors regarding the behavior of the researchers’ and users’ context than on the attributes of the research products.	Additional theoretical research is needed to refine the interaction theory of knowledge utilization and, likewise, more empirical studies are needed to better identify the factors explaining why researchers succeed or fail to pass over each of the different cumulative stages of knowledge utilization.	Research Policy, Vol. 30, Issue 2, pp. 333-349 (2001)	A / 131
Landry, Rejean; Amara, Nabil and Rherrad, Imad	2006	Why are some university researchers more likely to create spin-offs than others? Evidence from Canadian universities	University spin-offs, resources, determinants of university spinn off creation, natural sciences and engineering	Why are some university researchers more likely to create spin-off companies than others? In order to explain why university researchers create spin-offs, we draw on the resource-based theory of the firm.	The study database consists of 1554 university researchers funded by the Natural Sciences and Engineering Research Council of Canada (NSERC).	The logistic regression results suggest that the traditional and entrepreneurial visions of university research complement each other when one looks at the resources mobilized by researchers to launch spin-offs.	Some hypotheses were not supported by data analysis and should be further reasearched as each area had some results that were contrary to what was expected.	Research Policy, Vol. 35, Issue 10, pp. 1599-1615 (2006)	A / 35
Lane, Peter J.; Koka, Balaji R. and Pathak, Seemantini	2006	The reification of absorptive capacity: A critical review and rejuvenation of the construct	Research, citations, absorptive capacity	Assess how the construct has been utilized; identify the substantive contributions to the broader literature.	We conduct a detailed analysis of 289 absorptive capacity papers from 14 journals assess how the construct has been utilized, examine the key papers in the field, and identify the substantive contributions to the broader literature using a thematic analysis. We argue that research in this area is fundamentally driven by five critical assumptions that we conclude have led to its reification and that this reification has led to stifling of research in this area. To address this, we propose a model of absorptive capacity processes, antecedents, and outcomes.	We have found strong evidence that in much of the management-related research on absorptive capacity, scholars have used that construct in a highly reified manner. Only 22 percent of the papers we studied have made some type of substantive use of the construct, and only 1.4 percent of the papers have attempted to refine or extend the construct’s definition. Furthermore, the cross-citations between the papers in this body of literature show little evidence of an accumulated body of knowledge. Almost 20 percent of the papers are linked to the literature only through their citation of Cohen and Levinthal, and less than 10 percent of the papers average one or more links to the literature per year. In short, we suspect that the pressures to jump on emerging research bandwagons, to publish quickly, and to avoid replication are the root causes of the reification of absorptive capacity. While we have no data to verify this, we find this explanation far more plausible than the alternative explanation that the reification was done for other, more selfserving reasons. Our review of over a decade of absorptive capacity research has underscored its potential to be a major construct in organizational research.	First, future studies should avoid the limiting assumptions identified in this study and should view absorptive capacity as a capability rather than a “thing” that is divorced of its context. Second, future studies should demonstrate an understanding of absorptive capacity’s original assumptions and then test them through replications and extensions that build on the theory, metrics, and findings of prior studies via tests in several contexts, not just R&D. Third, absorptive capacity should be empirically explored in non-R&D contexts using metrics that capture each dimension of the absorptive capacity process (identify, assimilate, and apply) in a manner appropriate for that context. Finally, future research should place more emphasis on longitudinal studies in order to address the current problems of tautological measures and to better explore the process aspects of absorptive capacity.	Academy of Management Review, Vol. 31, No. 4, pp. 833-863 (2006)	A+ / 319
Lange, Stefan	2008	New Public Management und die Governance der Universitäten	Neue Steuerung, Hochschulpolitik, Universitäten, Governance, New Public Management, Selbstverwaltung	Die deutschen Universitäten werden heute nach Vorgaben des New Public Management (NPM) reformiert. Dabei wird häufig unter dem Eindruck der Vielfalt der Instrumente, die zum Einsatz kommen, aus den Augen verloren, dass es sich bei NPM – aus analytischer Perspektive – durchaus um ein ganzheitliches Modell der Governance von Hochschulen und anderer staatsnaher Organisationen handelt. Aber auch zahlreiche nichtintendierte Effekte dieser Reformen lassen sich beobachten.	Der Beitrag versucht dies im Rahmen eines Überblicks über die aktuelle Literatur aufzuzeigen.	Die Hochschulen wollen und nehmen sich das Beste aus beiden Welten und können sich dabei bislang des ungebrochenen Rückhalts der politischen, wirtschaftlichen und juristischen Akteure sicher sein, die einen Quasi-Markt am Laufen halten, in dem „academics [...] act as capitalists from within the public sector“ (Slaughter/Leslie, S. 210).	Da andere Länder mit Blick auf NPM-Reformen ihrer Hochschulsysteme fortgeschrittener sind als Deutschland, wird ein Schwerpunkt auf die international vergleichende Literatur der letzten Dekade gelegt.	dms - der moderne staat - Zeitschrift für Public Policy, Recht und Management, Heft 1/2008, S. 235-248 (2008)	C / k.A.

Laursen, Keld and Salter, Ammon	2004	Searching high and low: what types of firms use universities as a source of innovation?	industrial innovation, university-industry links, innovative search, openness	This paper examines the factors that influence why firms draw from universities in their innovative activities. The link between the universities and industrial innovation, and the role of different search strategies in influencing the propensity of firms to use universities is explored.	This paper began by observing the recent expansion of both academic and government interest in the role of universities in shaping and enhancing industrial practice. The data for the analysis is drawn from the UK innovation survey. The CIS questionnaire asks firms to indicate what sources of information and knowledge they draw upon in their innovative activities. It lists 18 different sources of information and knowledge for innovation, including suppliers, customers and universities. an ordered logit model is applied as the means of estimation	The results suggest that firms who adopt “open” search strategies and invest in R&D are more likely than other firms to draw from universities, indicating that managerial choice matters in shaping the propensity of firms to draw from universities. Despite the enthusiasm for university–industry links, we found that only a limited number of firms draw directly from universities as a source of information or knowledge for their innovative activities. The present paper confirms the importance of “structural” factors in explaining why some firms use universities. It appears that R&D intensity, firm size and the industrial environment are important factors in explaining the propensity of firms to use universities in their innovative activities.We could not support the general expectation that start-up firms are greater users of university knowledge in their innovative activities. The key finding of the paper is that the search strategy adopted by a firm will strongly influence its propensity to use university knowledge and information. Previous attempts to explain why firms use universities have exclusively focused on structural factors.	It would be useful to explore the characteristics of different search strategies, such as their depth and scope, and to link these properties to the propensity of firms to draw from universities. Such an approach would place the role of universities in innovation within the context of corporate strategies for exploitation and exploration of knowledge. We see this paper as a first step in this direction.	Research Policy, Vol. 33, Issue 8, pp. 1201-1215 (2004)	A / 185
Lee, Yong	1996	Technology transfer' and the research university: A search for the boundaries of university-industry collaboration	technology transfer, university, industry, collaboration, research	This article examines the emerging 'technology transfer' role US academics are expected to play in economic development, what specific roles they believe they can play in industrial innovations, and how they might go about collaborating with private industry.	Data for this study are from a mailed survey questionnaire administered by the author during the Spring of 1994 and field interviews with a select group of university officials responsible for university-industry relations; total faculty pool (N = 986); multivariate logistic analysis.	US academics in the 1990s believe that they are more favorably disposed than in the 1980s toward closer university-industry collaboration. A majority of the respondents supports the idea that their universities participate actively in local and regional economic development, facilitate commercialization of academic research, and encourage faculty consulting for private firms. A majority of these respondents, however, refuses to support the idea of their universities getting involved in close business partnership with private industry by way of, for example, start-up assistance or equity investment. Of various organizational and motivational underpinnings analyzed from the data, two factors stand out as central to the current debate on university transfer: one is the perception of declining federal R&D support, which threatens the vitality of their research enterprise, and the other is the impact of close university-industry cooperation, which is likely to interfere with academic freedom - the freedom to pursue long-term, disinterested, fundamental research.	The methodological limitations associated with the retrospective questionnaire; because most patents issued and licenses granted are from 'elite' institutions, it has been expected that the faculty in the top quartile would be relatively more favorably disposed to university transfer than those in the lower quartiles. This expectation has not survived an empirical test.	Research Policy, Vol. 25, Issue 6, pp. 843-863 (1996)	A / 147
Lepori, Benedetto	2011	Coordination modes in public funding systems	public funding systems, coordination modes, institutional complementarities	The aim of this paper is to look at public research funding systems from the perspective of their broader institutional arrangements, in order to observe how these shape the relationships between funding agencies and research actors. This drives to characterise the main organisational forms of public research funding in terms of their underlying coordination mode and to use this framework to evaluate them against a number of criteria. Further, the way how these organisational forms can be combined to yield national-level configurations is discussed, and some of their properties and conditions of functioning are derived from the previous discussion; this also leads to identification of three main configurations of funding systems – the project-based model, the mixed model, the vertically integrated model – which describe the variety of national systems and, to a large extent, underpin current discussion on European research policy.	keine Empirie; Coordination modes and organisational forms of funding.	The actor-centered approach highlights the centrality of the dynamic efficiency criterion and its close relationships with the structure of the interaction field among actors. Existing empirical evidence shows that most national research funding systems are composed by a patchwork of instruments introduced across time with an incremental logic, adding a new instrument when new requirements emerge, instead of restructuring the existing ones. This is coherent with the discussion on institutional complementarities: like other institutional arrangements, research funding systems need to answer at the same time to conflicting requirements and they are subjected to changing environments andnewrequests. In terms of policy analysis, the paper suggests that instead of trying to identify the best possible funding model and proposing far-reaching reforms, it would be preferable to identify weaknesses of the existing portfolio and to analyze how to overcome them through careful reforms of existing instruments and selective introduction of new ones. The paper provides also some arguments to explain widely diffused strategies to improve existing systems like the use of networks as funding instruments and bears some predictions on when this should be observed.	The next step in an empirical agenda is then to design studies analyzing national configurations of funding systems, by combining information on the structure linking actors in and across the different layers, on the overall structure of flows of research, and, finally, on the broader institutions underpinning their functioning and to use this information to provide a mapping of the main interaction spaces characterising national funding systems, of their structure, relative importance and interactions.	Research Policy, Vol. 40, Issue 3, pp. 355-367 (2011)	A / 11
Lessl, Monika and Douglas, Frank	2010	From technology transfer to know-how interchange	innovation drug, discovery alliances, trends in industrial-academic, collaborations key, success factors for collaborations	Die Zusammenarbeit zwischen Pharmaindustrie und Wissenschaft in Bezug auf die Entwicklung neuer Medikamente wird immer wichtiger. Dabei verändert sich die Art der Kooperation von einem eindimensionalen Tech-nologietransfer hin zu einem mehrdimensionalen Austausch von Know-how. Um die Partnerschaften zu optimieren, wurde das RESOLVE Model entwickelt, welches Schlüsselfaktoren für eine erfolgreiche Zusammenarbeit von Industrie und Wissenschaft zusammenfasst.	The research presented is the result of in-depth qualitative interviews with twelve former and current leaders and/or heads of partnering functions from eight major pharmaceutical and biotech companies, directors from five scientific organisations and a group of ten young group leaders in academic institutes.	The main reasons for failures in drug development, in addition to economic aspects, are safety concerns and lack of efficacy. To avoid late failures the early drug discovery process has to be improved. This means to advance the understanding of disease mechanisms, to develop more predicitive animal models and to identify predicitive biomarkers and stratification markers to allow early clinical Proof of Concept and patient stratification.	New, more flexible ways of interaction between the different stakeholders (pharmaceutical industry, biotech, academia) need to be established. The current paper addresses the role of academic-industrial collaborations in the drug discovery process.	Wissenschaftsmanagement, Jg. 16, Heft 2 (März/April), S. 34-41 (2010)	k.A. / k.A.
Lewis, Jenny; Ross, Sandy and Holden, Thomas	2012	The how and why of academic collaboration: disciplinary differences and policy implications	collaboration, research policy, humanities, sciences, social sciences	This paper examines how and why academics in different parts of the academy collaborate.	Two interview based studies were used to explore the differences in collaborative practices across disciplines. The first was small and confined to a single university (n = 36) and the second was a larger study conducted in three countries (n = 274). Cross tabulations and analysis of open ended questions demonstrated many differences across the humanities, sciences and social sciences in collaboration.	In this paper we argue that: (1) There is a useful analytical distinction to be made between collaboration (fluid and expressive) and Collaboration (concrete and instrumental); (2) These two are not mutually exclusive and their use varies between disciplines; and (3) This distinction is an informative one for policy making that aims to encourage collaboration. The C/collaboration distinction proves useful in understanding different disciplinary approaches to research, and in pointing to implications for research policy and funding. Attempts to increase collaborative research through Collaboration only, may well have deleterious effects on both collaboration and Collaboration.	Policy and funding should instead recognise the importance of the more expressive forms of collaboration for all disciplines, and the link between this and Collaboration, which appears to be stronger for sciences than for humanities and social sciences. In doing so, policy would be not only more inclusive of a broader range of disciplines, but also more able to stimulate the desired research outcomes from a broader range of fields.	Higher Education, Vol. 64, Issue 5, pp. 693-708 (2012)	C / 3
Leydesdorff, Loet	2000	The triple helix: an evolutionary model of innovations	triple helix, University-industry-government relations, lock-in, Lock-out, equilibrium, substitution	The ‘‘lock-in’’ model by Arthur Arthur, W.B., 1988 can be extended to the case of two and even three sources of random variation. Thus, one can model a triple helix of university–industry– government relations. In the case of two sources the stabilization of a technological trajectory is enhanced, while in the case of three a complex regime can be generated. Conditions for lock-in, lock-out, return to equilibrium, substitution, etc., are specified in relation to the assumed complexity of the dynamics under study and with reference to the stage of development, that is, before or after lock-in. Some normative implications of the triple helix model of innovations can be specified.	Lock-in Model (Arthur Arthur), Triple Helix, Lock out.	Because of the negative that is, selective feedback loops involved, the risks of bringing an innovation process locally to an end should not be neglected. If, on the other hand, a technology fits into a lock-in, a trajectory is generated that can be expected to perform a ‘‘life’’-cycle as long as it is not systematically disturbed by developments at the next-order level of the technological regime.	Although the development of a triple helix inter- action can be traced back to the second half of the 19th century e.g., Noble, 1977; Van den Belt and Rip, 1987 , the codification of the network mode as a regime of university–industry–government communications is of rather recent date. At the level of the communication system, the specification of dimensions potentially relevant for future developments assumes a theoretical reflection on possible developments.	Research Policy, Vol. 29, Issue 2, pp. 243-255 (2000)	A / 82

Liefner, Ingo	2003	Funding, resource allocation, and performance in higher education systems	Funding sources of higher education institutions, national higher education systems, performance of universities, resource allocation in higher education, research universities	This article analyzes forms of resource allocation in university systems and their effects on performance in institutions of higher education. Internationally, higher education systems differ substantially with regard to research and education funding sources and to ways that resources are allocated. European universities receive the majority of their funding from public sources, but private funding plays a more important role in Anglo-American systems of higher education. This article analyzes how various forms of funding and resource allocation affect universities at the macro-level and individual behavior at the micro-level.	First the sources of funding and the internal budget allocation of the six universities are described to demonstrate international differences in funding and resource allocation. This section is followed by a discussion of the principal-agent theory, a concept that leads to hypotheses about the effects of performance-based budgeting on individual behavior. The theoretical hypotheses are then compared with empirical findings (based on case studies of universities and in-depth interviews with higher education administrators and professors. The final section examines additional factors that may influence the long-term success of universities and ends with a brief discussion of implications relevant to university administrators.	A theoretical approach to this problem suggests that performance-based funding tends to bring about positive changes but is also a factor in unintended side effects. Forms of resource allocation influence the behavior of academics and managers in higher education, particularly their levels of activity as well as the kinds of activities they engage in and their ways of dealing with risks. Empirical analyses partly confirm these hypotheses. It can be shown that changes in resource allocation have an impact on the level and type of activity academics concentrate on but not on the long-term success of universities. This paper has shown that there is obviously no a priori superior approach to successful resource allocation in education and research. Furthermore, the culture and tradition of universities and national HES have only limited influence on the peoples' reactions towards performance-based budgeting.	The differences in national or university cultures and funding arrangements are reflected in the expectations connected to performance based resource allocation. But, these differences in expectations are relatively small compared to the common views of the interviewees on the prospective outcome of a strongly competitive funding system (e.g., more applied research, an increased number of publications, market application).	Higher Education, Vol. 46, Issue 4, pp. 469-489 (2003)	C / 40
Lin, Min.-Wie and Bozeman, Barry.	2006	Researcher's industry experience and productivity in university-industry research centers: a scientific and technical human capital explanation	technology transfer, industry-university relations, innovation	We examine the impact of researchers' previous industry experience on the research outputs and outcomes of university faculty affiliated with NSF and DOE research centers.	Using a dataset combining curriculum vita and surveys, our results indicate significant differences between the researchers who have previous industry experience and those who do not. Using a simple model of research productivity, we found that academic researchers who had prior industry exposure produce fewer total career publications, but they support more students.	Most important, and perhaps surprising, we could not establish any difference between the two groups' publication activity when focusing on a five-year cross- section (years 1996–2000) rather than total career publications. We found statistical evidence that previous industry experience raised the annual publication productivity of junior faculty members and women researchers in our sample of research center personnel. We believe the unique blend of research center affiliation, academic post, and past industry experience gives an individual who embodies or possesses all three characteristics a diverse source of scientific and technical human capital and particular advantages over those who have no industry experience (though the ''academic-only'' set also has particular advantages in cumulative publishing productivity).	In addition to possible selection effects, the results may be biased from misspecification due to omitted variables. More specifically, we have not included in our model any psychological effects or other individual differences in ability and motivation that may set the industry researchers apart from the purely academic scientists.	Journal of Technology Transfer, Vol. 31, Issue 2, pp. 269-290 (2006)	B / k.A.
Link, Albert; Siegel, Donald and Bozeman, Barry	2007	An empirical analysis of the propensity of academics to engage in informal university technology transfer	technology transfer, university, industry	Surprisingly, there has been little systematic empirical analysis of the propensity of academics to engage in informal technology transfer. This paper presents empirical evidence on the determinants of three types of informal technology transfer by faculty members: transfer of commercial technology, joint publications with industry scientists, and industrial consulting.	Our data on informal technology transfer are derived from the Research Value Mapping Program Survey of Academic Researchers. Survey data were collected from a sample of university scientists and engineers with a Ph.D. at the 150 Carnegie Extensive Doctoral/Research Universities during the time period spring 2004 to spring 2005 sampling population of 1514 full-time tenured or tenure-track scientists and engineers.	We find that male, tenured and research-grant active faculty members are more likely to engage in all three forms of informal technology transfer. Clear finding is that tenured faculty members and those who are actively involved in research grants are more likely to engage in informal technology transfer than non-tenured faculty members. Finally, we find that faculty members who currently allocate a relatively higher percentage of their time to grants-related research are more likely to engage in all forms of informal technology transfer.	Possible response bias to the survey, although we weighted responses to mirror the population of scientists and engineers. Another concern is that we have simple, dichotomous measures of informal technology transfer. The latter may be problematic because such measures do not account for the extent of such activity or for the nature and characteristics of the technology that is transferred. In addition, our data do not allow us to control for the possibility that informal technology transfer, as we have measured it, in the current time period can develop into formal technology transfer in subsequent time periods. As well, our data do not allow us to explore the possibility of a complementary relationship among the three measures of information technology transfer—contemporaneously complementary or complementary over time.	Industrial and Corporate Change, Vol. 16, Number 4, pp. 641-655 (2007)	C / 91
Markman, Gideon; Siegel, Donald and Wright, Mike	2008	Research and Technology Commercialization	research, technology, entrepreneurial teams, incentives	This paper introduces the special themed section on organizational interactions involving universities and firms that result in the commercialization of research and technology. Our objective is to shed light on some of the most vexing, yet under-researched predicaments research institutions encounter, despite their best efforts to advance commercialization.	First, we synthesize and extend recent studies, including the papers in the special themed section. Next, we develop a taxonomy of modes of commercialization. Specifically, we consider internal approaches, quasi-internal approaches (e.g. incubators), university research parks, regional clusters, academic spin-offs and start-ups, licensing, contract research and consultancy, corporate venture capital, and open science and innovation.	We provide an introduction to the special themed section of JMS on organizational interactions involving universities and firms that result in the commercialization of research and technology.	We also identify areas for further research at the individual (e.g. heterogeneity of entrepreneurial teams and experience; incentives), organizational and intra-university (e.g. corporate governance; nature of growth strategies; relationships with trading partners; boundary spanning activities) and technology levels (e.g. institutional context; reconfiguration of technology; valuation of technology).	Journal of Management Studies, Vol. 45, Issue 8, pp. 1401-1423 (2008)	B / 36
Merten, Wolfgang und Kirchner, Michaela	2007	Wissenschaftsmarketing - Ende der Beliebigkeit: Ausbildung statt "trial and error"	industry marketing, research areas, universities	Entscheidungsträger aus Forschungseinrichtungen, Hochschulen und Wissenschaftsorganisationen bedienen sich lange schon der Instrumente des Wissenschaftsmarketings. Hier gilt es, durch eine systematische Professionalisierung Berührungsängste abzubauen und Handlungsspielräume zu gewinnen.	keine Empirie; Expertenmeinung	Im Zuge der Entwicklung des Europäischen Hochschulraums durch den Bolognaprozess, der Lissabon-Strategie, der Exzellenzinitiative der Bundesregierung, des Hochschulpaktes u.v.m. verlangt der immer mehr eingeforderte Wettbewerb eindeutige Positionierungen, eine klare Marktstrategie und eine überzeugende Selbstdarstellung in der Öffentlichkeit wie gegenüber den relevanten Gremien. Die Ergebnisse der Exzellenzinitiative haben bereits den Vorsprung derer bestätigt, die den Weg vom Behördenmodell zum „Unternehmen Hochschule“ bereits beschritten haben. Die traditionelle Organisation von Forschung und Entwicklung, Hochschulmanagement und Verwaltungshandeln muss sich in dem Maße ändern, in dem sich die Herausforderungen an Marketing und Kommunikation den Usancen der Wirtschaft annähern.	Wenn wir soweit sind, dass Rankings und leistungsbezogene Mittelvergabe nicht als Zumutung, sondern als Entwicklungschance begriffen werden sollen, ist die Voraussetzung für einen tief greifenden und zugleich befreienden Mentalitätswandel und Modernisierungsprozess gegeben.	Wissenschaftsmanagement, Jg. 13, Heft 4 (Juli/August), S. 16-20 (2007)	k.A. / k.A.
Mueller, Pamela	2006	Exploring the knowledge filter: How entrepreneurship and university-industry relationships drive economic growth	regional growth, knowledge, entrepreneurship	The existing knowledge stock might not be commercialized to its full extent; therefore, knowledge flows must occur and transmission channels are needed. The paper tests the hypotheses that entrepreneurship and university-industry relations are vehicles for knowledge flows and, thus, spur economic growth.	Cross-sectional time series. In order to test the hypothesis that entrepreneurship and university–industry relations stimulate economic growth, a Cobb-Douglas production function is employed in order to estimate regional economic performance for the West German regions between 1992 and 2002.	First, a well developed regional knowledge stock is a crucial determinant of regional economic performance. New knowledge needs to be generated at existing firms and research institutions before it can be exploited. Secondly, regions with a higher level of entrepreneurship experience greater economic performance.	The analysis is restricted to West Germany because East Germany can be regarded as a special case with very specific conditions not comparable to the West in the 1990s.	Research Policy, Vol. 35, Issue 10, pp. 1499-1508 (2006)	A / 63

Müller, Ulrich und Langer, Markus	2008	Hochschulnamen als Marke	university, brand, assessment	Nach welchen Kriterien lässt sich ein Hochschulname bewerten, wie kann man alternative Hochschulnamen gegeneinander abwägen?	keine Empirie; Expertenmeinung	Bezogen auf den sogenannten Markenvierklang (Bekanntheit, Sympathie, Intention, Verhalten) wirkt der Name einer Hochschule insbesondere auf die beiden ersten Stufen. **Konstruktionstypen:** Sponsor/Stifter + Hochschultyp + (-ort) Patron + Hochschultyp + Ort Hochschultyp + Ort Universität Kassel Phantasiename (+ Hochschultyp + Ort) prägendes Adjektiv + Hochschultyp + Ort Freie Universität Berlin Region + Hochschultyp + Ort Hochschultyp + Ort + Zusatz Hochschule Wismar – University of Technology, Hochschultyp + Fachrichtung + (Ort) Universität der Künste (Berlin) **Bewertungsdimensionen:** Eindeutige regionale Zuordnung, Adäquate Darstellung des institutionellen Anspruchs, Eindeutige Kennzeichnung des fachlichen Profils, Hinweis auf überfachliche Profilelemente, Bekanntheit der Namensbestandteile, Positive Konnotation der Namensbestandteile, Internationale Darstellbarkeit, Abkürzbarkeit, klarheit/Prägnanz, Sicherstellung der Kontinuität.	k.A.	Wissenschaftsmanagement, Jg. 14, Heft 2 (März/April), S. 30-32 (2008)	k.A. / k.A.
Münch, Richard	2010	Der Monopolmechanismus in der Wissenschaft - Auf den Schultern von Robert K. Merton	Matthäus-Effekt, Soziale Mechanismen, New Public Management, Ranking, unternehmerische universität	Es wird gezeigt, dass die hierarchisierung von Fachzeitschriften nach ihrem Impact den Monopolmechanismus in der Wissenschaft durch Prozesse der materiellen Produktion von Marktmacht und der symbolischen Konstruktion von exklusivität befördert.	Literaturstudie sowie Auswertung von DFG- und anderen Sekundär-Daten	Unter der Herrschaft des Shanghai-Rankings entsteht daraus eine zirkuläre Akkumulation von materiellem und symbolischem Kapital durch eine exklusive Klasse global dominanter universitäten. Der Wettbewerb von Forschern um Anerkennung durch die wissenschaftliche gemeinschaft für ihre beiträge zum erkenntnisfortschritt als globales Kollektivgut wird durch den Wettbewerb unternehmerischer universitäten um Forscher, Studierende und Forschungsgelder als Rendite generierende Ressourcen kolonisiert. Den daraus folgenden Tendenzen der Schließung der Wissensevolution können Maßnahmen entgegenwirken, die auf die Pluralität von Instanzen der Qualitätssicherung, auf den Aufbau von gegenmacht gegen vorhandene Macht in einem System von „checks and balances“ und auf Spielräume für methodologische Anarchie zielen.	k.A.	Berliner Journal für Soziologie, Vol. 20, Issue 3, pp. 341-370 (2010)	k.A. / k.A.
Nicholls, Miles G. and Cargill, Barbara J.	2011	Establishing best practice university research funding strategies using mixed-mode modelling	university research funding, mixed-mode modelling, strategy evaluation	This paper develops a model representing the university research funding problem under a performance based research funding (PBRF) scheme during the ‘lead-upperiod’ using a mixed-mode modelling approach (involving soft and hard models)and suggests a solution heuristic.	Benchmarking, an Expert Panel (operating on panel consensus) and subjective strategy impact evaluation are the key tools used. Potential actions constituting strategy (qualitylead) together with the constraint groups involved and potential impact on the objective function for an academic unit at commencement of year.	The resultant model facilitates the development of ‘best practice’ strategies to assist in raising the level of research quality and participation, thus placing the university (or academic unit) in the best possible position for facing the final hurdle,the formal research assessment process. This assessment process constitutes the ‘positioning problem’, for which models already exist to assist individual universities to adopt the most favourable strategy. However, the ultimate position of the university depends on the results from the lead-up period. The suggested model facilitates ‘research enhancement’ strategy formulation, evaluation and revision and actively involves the researchers themselves.	It has, in effect, ‘democratised’ research management, a necessary precondition for the still greater increases in quality and participation required in the future.	OMEGA-INTERNATIONAL JOURNAL OF MANAGEMENT SCIENCE, Vol. 39, Issue 2, pp. 214-225 (2011)	B / 4
Perkmann, Markus; King, Zella and Pavellin, Stephen	2011	Engaging excellence? Effects of faculty quality on university engagement with industry	university–industry relations, faculty quality, collaborative research, contract research, academic consulting, technology transfer, academic entrepreneurship, commercialization	Previous research has predominantly found a positive relationship between academics’ research quality and their commercialization activities. Here we use industry involvement measures that are broader than commercialization and indicate actual collaboration, i.e. collaborative research, contract research and consulting. We hypothesise that the relationship between faculty quality and industry engagement differs across disciplines, depending on complementarities between industrial and academic work, and resource requirements.	Using a dataset covering all UK universities (our dataset includes the complete population of 164 higher education institutions (HEIs) in the UK in 2003/04. In this paper, we refer to all HEIs as universities except when directly reporting responses to a question in the HEBCI survey) ; results of the regressions for the various dependent variables. The number of observations in the regressions was 132.	We find that in technology-oriented disciplines, departmental faculty quality is positively related to industry involvement. In the medical and biological sciences we find a positive effect of departmental faculty quality but establish that this does not apply to star scientists. In the social sciences, we find some support for a negative relationship between faculty quality and particularly the more applied forms of industry involvement.	First, university-level analysis necessarily yields less fine-grained results than would individual or department-level analysis. Our dependent variables only measure income, not necessarily industry involvement. A third limitation is that our data do not allow us to observe whether faculty quality is associated with the ability to engage effectively with industry.	Research Policy, Vol. 40, Issue 4, pp. 539-552 (2011)	A / 10
Pitsoulis, Athanassios and Schnellenbach, Jan	2012	On property rights and incentives in academic publishing	academic journals, scientific publishing, peer review policy , property rights	The peer review system in academic publishing performs two important functions by screening a manuscript for its quality, and by helping to further improve an author's work. However, it often fails to perform these functions in a satisfactory manner. We argue that property rights theory can be fruitfully applied to understand these shortcomings, and to develop reform proposals. The present paper discusses the incentive-problems in journal peer review from an institutional economics perspective, arguing that the incentives of both authors and reviewers to fully exploit a manuscript's potential depend on their property rights.	Peer review system / property rights theory.	Certainly, intensive competition between at least the high-impact journals may result in imitations of successful innovations in that field. The “as is”-proposal appears to be a step in the right direction. From a property rights-theoretic perspective it can be expected to result in a reduction of the sometimes excessive demand for reviews and thus in an increase of the proportion of high-potential reviewers, who have systematically higher opportunity costs than the rest.	Limited to economical perspective. Other perspectives should be considered in order to gain a holistic review.	Research Policy, Vol. 41, Issue 8, pp. 1440-1447 (2012)	A / 1
Ponomariov, Branco L. and Boardman, P. Craig	2010	Influencing scientists' collaboration and productivity patterns through new institutions: University research centers and scientific and technical human capital	university research center, research collaboration, bibliometrics, science and technology policy	This paper analyzes the effect of university research centers on the productivity and collaboration patterns of university faculty. In this paper, we measure the productivity and collaboration patterns of university researchers affiliated with a relatively large-scale and “mature” university research center to discern the effects, if any, of the center mechanism on individual scientists and engineers.	Based on an analysis of longitudinal bibliometric data (The resulting final panel data set consists of 777 observations (i.e., faculty-year records), of which 446 have at least one or more publication records (i.e., given that not all faculty publish in all years, 446 is the number of person-year records characterized with at least one publication). Since the analysis is based on panel data, and since all of the dependent variables are count variables, we analyze this data using random-effects.	The results from this case study demonstrate affiliation with the center to be effective at enhancing overall productivity as well as at facilitating cross-discipline, cross-sector, and inter-institutional productivity and collaborations.	Future research on the effects of the center mechanism on the conduct of scientists will benefit from better data, for sets of centers, either for the same centers program or across programs for the same agency. Such research would be greatly facilitated by uniform requirements from the sponsoring agencies for collecting appropriately structured bibliometric data. Future research could also benefit by new research questions. An important issue that needs to be addressed relates to how durable or lasting are center effects.	Research Policy, Vol. 39, Issue 5, pp. 613-624 (2010)	A / 23
Print, Murray and Hattie, John.	1997	Measuring quality in universities: An approach to weighting research productivity	education, research productivity, quality, universities	The aim of the study is to demonstrate, via the use of the discipline of Education, a procedure to identify and weight the importance of various indicators of research productivity which in turn have become significant components in determining quality within and between universities.	The methodology allows for the identification of indicators that are most important, and ascertains if there are differences among academics as to the relative weighting of the various research indicators. Highly valued indicators of research productivity amongst the Education academics were refereed journal articles, peer reviewed books, and major competitive research grants.	Refereeing was critical in the determination of quality in research productivity, and the findings generalized across many academics regardless of their own personal productivity.	It is recommended that the methodology can serve to determine the tacit weights that academics within and across disciplines attach to various research products. At least, this method makes academics and administrators aware of the weightings they are actually using when making decisions about the quality of academic departments.	Higher Education, Vol. 33, Issue 4, pp. 453-469 (1997)	C / 15

Ramos-Vielba, Irene and Fernandez-Esquinas, Manuel	2012	Beneath the tip of the iceberg: exploring the multiple forms of university-industry linkages	university-industry relationships, knowledge transfer, intellectual property rights, regional university system	This article focuses on the wide variety of channels through which the process of knowledge transfer occurs. The overall objective is to show the complexity of relationships between researchers and firms in a university system, and to identify some specific factors that influence such interactions.	Our case study involves a face-to-face survey of 765 heads of research teams in a regional system to contrast the multiple forms of university–industry collaborative linkages. We apply a factor analysis to identify correlations and underlying dimensions. Subsequently, a conglomerate analysis enables us to detect homogeneous clusters of research teams.	The results confirm that knowledge transfer processes between universities and industry clearly occur through a variety of mechanisms, revealing differences in the extent to which research teams engage in such linkages. There are, therefore, high levels of heterogeneity in terms of the involvement of universities with the productive environment. We show that for a majority of universities the thrust of their collaborative experiences is devoted to tacit knowledge rather than to intellectual property rights. Researchers actively engage in the provision of different services to firms such as consulting work, commissioned or joint research projects, and human resources training. Research teams also participate in non-academic knowledge dissemination and informal networking.	It is important to recognise that a variety of different types of interactions contribute to increased absorptive capacity in specific industries because they generate long-term relations of trust that are associated with a variety of different collaborative experiences. There is still a clear need for knowing more about how stimuli operate within academia (McLellan et al. 2006). That would facilitate the (always complicated) design of a governance structure that creates the right incentives for academics to improve knowledge transfer (Geuna and Muscio 2009).	Higher Education, Vol. 64, Issue 2, pp. 237-265 (2012)	C / 0
Rasmussen, Einar and Borch, Odd Jar	2010	University capabilities in facilitating entrepreneurship: A longitudinal study of spin-off ventures at mid-range universities	academic entrepreneurship, technology transfer, university capabilities, university spin-offs, venture-formation process	This paper investigated how universities facilitate the process of spin-off venture formation based on academic research. Building on a capability perspective, we add to the literature on university characteristics and resources by exploring how the university context impacts the entrepreneurial process. We based our study on two mid-range universities and followed the start-up process of four spin-off ventures.	Data triangulation including several sources of data was used to map out the situation and critical events prior to and during the development of the USOs. Secondary data from the universities were collected through documentary sources such as strategy plans, annual reports, and web pages. Primary data from each university were collected through visits, conversations, and interviews over a 4-year period at University A and a 2-year period at University B. Primary data from the USO projects were collected in each case by 6 to 16 personal interviews conducted over a 12–15-month period beginning in the spring of 2004. Longitudinal study: From the data, we identified critical characteristics and events that influenced how the USO process emerged and developed in the university context. To derive theoretical explanations for the processes observed, we identified observations that matched theoretical concepts.	Based on the results of our longitudinal study, we propose a set of three university capabilities that facilitate the venture-formation process: (1) creating new paths of action, (2) balancing both academic and commercial interests, and (3) integrating new resources. Each capability is particularly important for specific phases in the venturing process. Our findings suggest that these capabilities are dependent on prior spin-off experience and reside within several actors both inside and outside of the university. Furthermore, universities with weaknesses in the identified areas can take strategic action to develop these capabilities to some degree.	More research using larger samples of USOs and universities is needed to confirm these capabilities and measure whether they are associated with a higher number of USOs and the subsequent growth of these firms. In particular, more longitudinal research is needed to be able to draw conclusions from causal inferences (Narayanan et al., 2009). Our study was limited to the initial phases of the USO process, which is arguably where the niversity context has the most impact. Therefore, future studies should not only treat the university context as endogenous to the USO process but also address the changing role of the university context throughout the USO process. Eisenhardt and Martin (2000) suggest that the capabilities of an organization are evolutionary. As a result, many characteristics of the university capabilities may be very difficult to operationalize, and how these capabilities are created and developed warrants further study.	Research Policy, Vol. 39, Issue 5, pp. 602-612 (2010)	A / 16
Rothaermel, Frank T.; Agung, Shanti D. and Jiang, Lin	2007	University entrepreneurship: a taxonomy of the literature	entrepreneurial research, productivity of technology transfer, networks, innovation	Since the literature is also fairly fragmented, however, we submit that it is time to take stock of the current knowledge to provide directions for future research and guideposts for policy makers.	To accomplish this, we present an unusually comprehensive and detailed literature analysis of the stream of research on university entrepreneurship, now encompassing 173 articles published in a variety of academic journals. Four major research streams emerge in this area of study: (i) entrepreneurial research university, (ii) productivity of technology transfer offices, (iii) new firm creation, and (iv) environmental context including networks of innovation.	We inductively derive a framework describing the dynamic process of university entrepreneurship based on a synthesis of the literature.	We submit that this framework is useful in guiding future research on this important, yet complex and under-researched topic.	Industrial and Corporate Change, Vol. 16, Number 4, pp. 691-791 (2007)	C / 208
Salter, Ammon and Martin, Ben R.	2001	The economic benefits of publicly funded basic research: a critical review	economic benefits, basic research, government funding	This article critically reviews the literature on the economic benefits of publicly funded basic research. In that literature, three main methodological approaches have been adopted — econometric studies, surveys and case studies.	Literaturreview	From the literature based on surveys and on case studies, it is clear that the benefits from public investment in basic research can take a variety of forms. We classify these into six main categories, reviewing the evidence on the nature and extent of each type (The first category relates to basic research as a source of new useful knowledge, while the second consists of new instrumentation and methodologies, Thirdly, there are the skills developed by those involved in carrying out basic research, especially graduate students, which can also lead to substantial economic benefits as individuals move on from basic research, carrying with them both codified and tacit knowledge. A fourth type of benefit stems from the fact that participation in basic research is essential if one is to obtain access to national and international networks of experts and information. Fifthly, basic research may be especially good at developing the ability to tackle and solve complex problems. Basic research may lead to the creation of ‘spin-off’ companies, where academics transfer their skills, tacit knowledge, problem-solving abilities and so on directly into a commercial environment). The relative importance of these different forms of benefit apparently varies with scientific field, technology and industrial sector. Consequently, no simple model of the economic benefits from basic research is possible.	Additional research is needed to better define and understand these differences. This limitation in current science policy research should not be seen as implying a need for less government funding of science. Rather, it indicates that public funding for basic research is, like many areas of government spending e.g. defence, not easy to justify solely in terms of measurable economic benefits.	Research Policy, Vol. 30, Issue 3, pp. 509-532 (2001)	A / 227
Schartinger, Doris; Rammer, Christian; Fischer, Manfred and Fröhlich, Josef	2002	Knowledge interactions between universities and industry in Austria: sectoral patterns and determinants	knowledge interactions, innovation systems, university-industry relations	The paper attempts to measure the sectoral pattern for different types of knowledge interactions and to explore the determinants of knowledge interaction between different fields of research and sectors of economic activity in Austria.	The analysis is based on a comprehensive data set on various types of knowledge interactions between university departments and private firms in Austria in the 1990s. A methodology for interaction models is used in order to identify determinants of knowledge interactions.	The empirical results indicate that the intensity of knowledge interactions does not follow a simple sectoral pattern (assuming intense interactions between high-tech industries and firm-orientated technical sciences and low interactions in humanities and low-tech industries). There are some results which may be viewed as general patterns of knowledge interaction between university and industry. Apparently, universities and the industry use a variety of channels in order to transfer knowledge. The channels vary in the intensity of personal relations, in the types of knowledge transferred and in the direction of the knowledge flow.	A restriction of the analysis of industry–university relations to only a few types of channels may produce misleading results as there are significant differences in the orientation on certain types of interaction by industrial sectors and fields of science. While there is no doubt that knowledge exchange in direct research collaboration is one of the most effective transfer channels, other types of interaction should not be underestimated in their role in innovation processes which demand different types of knowledge. In the design of research and technology policy, barriers to industry–university interactions in other areas than direct research cooperation should be taken into account and addressed in effective ways as well.	Research Policy, Vol. 31, Issue 3, pp. 303-328 (2002)	A / 121

Sharma, Manu; Kumar, Uma and Lalande, Luc	2006	Role of university technology transfer offices in university technology commercialization: case study of the Carleton University foundry program	University, technology transfer, Carleton University	In this paper, we take a look at the established UTC process, the benefits of UTC, the role of TTOs in UTC and the state of research on UTC in North America. A debate about the role of the TTOs is also initiated. This paper discusses the model for a non traditional university technology transfer program developed in Carleton University and highlights how this program, through its unique structure and its support for innovation has been highly successful in stimulating the transfer of research and technologies from Carleton University into commercial applications.	Through a case study of the Carleton University Foundry program.	Innovation sustained by this free flow of ideas has always been the driver for commercializable ideas coming out of the university. The analysis of the UTC literature firmly establishes the fact that UTC needs to be understood in its broader context In keeping with the broader objective of the UTC, success would have to be a measure of parameters such as the influence on the local and regional economy, transfer of best practices regionally, nationally as well as internationally, the number of jobs created, development and sustenance of an entrepreneurial culture and the involvement of the local business community. This will have to be done in such a way that a proper balance between the basic objectives of the university, and the broader objective of dissemination of university research for the good of the wider community is maintained. It is the individual TTOs that have to come up with innovative solutions and take a leading role in helping support the knowledge-economy dictated needs of their researchers and institutions. The authors firmly believe that TTOs should practice what they preach about making innovation happen. The need of the hour, is for all such UTC programs/TTO operations to come together and help foster a new TTO culture that besides addressing the UTC needs of the universities also treats nurturing of innovation and entrepreneurship as its core value.	Basic research into the mechanisms and characteristics of individual TTOs would definitely give us a better insight into some of the unexplored aspects of UTC (as well as some of our unanswered questions). Further work on models such as the one adopted by the Foundry program would definitely be an interesting contribution to this field.	Journal of Services Research, Vol. 6, Special Issue (July, 2006), pp. 109-139 (2006)	A / k.A.
Smith, Erica and Smith, Andrew	2012	Buying-out teaching for research: the views of academics and their managers	research, academic work, buying-out, teaching relief	This paper reports on the practice of buying-out teaching to create time for research.	The research project was undertaken through a case study at one university. Case studies are valuable in under-researched areas as they allow investigation into the important issues while also accounting for the importance of context (Yin 1994). Case studies provide depth of analysis and investigation of ambiguities (Flyvberg 2006). The case study was mixed method and involved four separate components, and the fieldwork took place over a period of 15 months. Ethics approval was gained from the University's Ethics Committee. A mixed-method approach was selected, in order to capture both practices and the reasons for practices; as Yin (1994) states, qualitative methods investigate the 'how' and 'why' issues, while 'what' issues are addressed by quantitative methods. The four-pronged method also enabled several points of view to be accessed: those of academics, their managers and senior managers at the university.	We found that while eligible academics did buy out teaching by employing casual staff, most of them worried about the potential effects on teaching quality and students' learning. Heads of School were more sanguine about possible effects on teaching. Decision making by academics about whether to buy out teaching, and by Heads of School about whether to allow it in particular cases, took account of a number of factors. They were less likely to use funds to buy out face to face teaching activities or subject coordination. Research active academics would also tend to put in place safeguard mechanisms to make sure that the quality of teaching was not being compromised. These safeguards included moderation of marking, and meeting regularly with casual teaching or marking staff. The paper suggests that clearer policies need to be instituted in this area; academics were unsure what buying-out was allowed or acceptable, and would benefit from more discussion of the practice.	Any conclusions drawn from the data must acknowledge that the study was confined to one institution, and therefore cannot be claimed to be representative.	Higher Education, Vol. 63, Issue 4, pp. 455-472 (2012)	C / 1
Tether, Bruce S. and Tajar, Abdelouahid	2008	Beyond industry-university links: Sourcing knowledge for innovation from consultants, private research organisations and the public science-base	open innovation, specialist knowledge, collaboration, social capital, absorptive capacity	This paper explores the use of specialist knowledge providers as sources of information in the innovation activities of manufacturing and service firms.	The dataset (n 3996) is used as a simple sample of firms, and no attempt will be made to adjust the dataset to the population of firms in the UK. To analyse the use by firms of SKPs we estimated ordered logistic regressions; use of a joint estimation technique is appropriate, and we therefore estimated trivariate probit models in which each of the three types of SKP is represented by a dummy variable	We find, as anticipated, that amongst other factors specialist knowledge providers are more likely to be engaged by firms with more open approaches to innovation, those with high levels of absorptive capacity, those with greater social capital and networking capabilities, aswell as by those with deeper commitments to innovation. Overall, the use of specialist knowledge providers tends to complement firms' own internal innovation activities and tocomplement other external sources of knowledge. Moreover, the individual types of specialist knowledge providers tend to complement rather than substitute for one another. Beyond this we find significant differences in the types of specialist knowledge providers used by manufacturing and service firms. Although service firms are more likely than manufacturers to use specialist knowledge providers, they are more likely to engage consultants, whilst their links with research-based organisations, including the public science-base, are weaker. We ask whether there is a case for increasing the extent to whichthe public science-base undertakes activities that are relevant to innovation in the services.	The data is crosssectional, and therefore our models find only associations between the dependent and independent variables. This presents the usual problems of endogeneity and inferring causation. Secondly, the study relates to only one country and one time period. Clearly further comparable studies in time and space would be welcome. A third limitation is what is meant by the different types of SKP, and consultants in particular. We do not know what types of consultants were used, e.g., management, technical, legal, financial, etc. It would certainly be interesting to know more about the types of consultants used by the firms, but this is not possible with the existing CIS data.	Research Policy, Vol. 37, Issue 6-7, pp. 1079-1095 (2008)	A / 71
Tijssen, Rober J.W.	2004	Is the commercialisation of scientific research affecting the production of public knowledge? Global trends in the output of corporate research articles	corporate research, research partnerships, knowledge protection and dissemination, bio-pharmaceuticals, semiconductors	Has this development significantly affected industry's basic research and interactions with research communities in the public sector? This paper examines the global trends in an underdeveloped source of information on corporate science: their research articles published in the international scientific and technical journals.	Statistical analysis of some 290,000 corporate research articles published in 1996–2001 indicate that, contrary to large increases in patenting and growth in patent citations to research literature, the numbers of research articles that list author affiliate addresses in the corporate sector have declined steadily, especially for those articles authored exclusively by industrial researchers.	More detailed analysis of trends in the bio-pharmaceuticalssector and semi conductors sector show sector-specific publication trends and patterns related to specifics of their innovation processes. Overall,these observations provide factual evidence indicating that corporate research is in an on-going process of structural change characterised by a stronger emphasis on the appropriation and commercialisation of in-house research results.	Clearly, a 6 years time-span is not enough to detect structural global changes and trends with any degree of certainly. Indeed, companies are most likely also trying to minimise research costs by contracting out for work rather than conducting in-house research. Less funding for in-house exploratory research, and the downsizing of industrial research labs, would account for the significant decrease of corporate research articles in the open literature, especially the dramatic decline in publication rates of papers where companies are the sole creator of new scientific knowledge, as well as the significant drops in inter-company co-publications.	Research Policy, Vol. 33, Issue 5, pp. 709-733 (2004)	A / 33
Titscher, Irene	2008	Das Recht zur Veröffentlichung im Spannungsverhältnis zur Drittmittelforschung	Analogiefähigkeit, Aufgriffsrecht, Vergütungsanspruch, Amtsforschung, Veröffentlichungs-recht, Verwertungs-rechte, Drittmittel-forschung, Wissenschafts-freiheit	Immer öfter finden sich Wissenschaftler im Bereich der Drittmittelforschung mit der umstrittenen Rechtsmeinung ihrer Auftraggeber konfrontiert, die Verwertungsrechte an wissenschaftlichen Arbeiten stünden diesen zu. Inwieweit dies als zutreffend angesehen werden kann sowie die Beziehung zu dem im Universitätsgesetz verankerten Recht des Wissenschaftlers auf Veröffentlichung, soll den Untersuchungsgegenstand dieses Beitrages bilden.	Keine Emirie; Expertenbeitrag	Das Veröffentlichungsrecht ist durch staatliche Eingriffe unbeschränkbar, findet jedoch in der Drittmittelforschung, die für private Auftraggeber stattfindet, nicht Anwendung. In der Drittmittelforschung, die Arbeitspflicht des Wissenschaftlers ist, werden Werke für Auftraggeber geschaffen. Diese Werke stehen der Universität als Arbeitgeberin zu, die diese bei einem Forschungsauftrag nach § 27 UG 2002 an den Auftraggeber zu übertragen hat. Das Aufgriffsrecht nach § 106 Abs 2 und 3 UG 2002 an Diensterfindungen ist nicht analog auf urheberrechtliche Werke anwendbar, da nur in Erfüllung dienstlicher Pflichten geschaffene Werke nach Urheberrecht in der Drittmittelforschung der Universität zustehen und das patentrechtliche Aufgriffsrecht darüber hinausgeht. Steht in der „Amtsforschung" der Universität das Aufgriffsrecht an einer Erfindung zu, die mit urheberrechtlichen Werken in Konnex steht, so ist aus der Treuepflicht des Wissenschaftlers abzuleiten, dass er mit seiner Veröffentlichung so lang zuzuwarten hat, wie die Universität zur Vornahme einer Patentanmeldung braucht, um die Erfindung verwerten zu können.	k.A.	Zeitschrift für Hochschul-recht, Hochschulmanagement und Hochschulpolitik - zfhr, Vol. 7, Issue 6, pp. 171-176 (2008)	k.A. / k.A.

van Burg, Elco; Romme, A. Georges; Gilsing, Victor A. and Reymen, Isabelle	2008	Creating university spin-offs: A science-based design perspective	university spin-offs, research, entrepreneurship	This article adopts a science-based design approach to connect scholarly research with the pragmatics of effectively creating university spin-offs. This approach serves to link the practice of university spin-off creation, via design principles, to the scholarly knowledge in this area.	As such, science-based design promotes the interplay between emergent and deliberate design processes. This framework is used to develop a set of design principles that are practice based as well as grounded in the existing body of research on university spin-offs. A casestudy of spin-off creation at a Dutch university illustrates the interplay between initial processes characterized by emergent design and the subsequent process that was more deliberate in nature. The case study in this article serves to illustrate both emergent and deliberate design dimensions and, in particular, the pivotal role of design principles in the interplay between both dimensions. The study draws on data collected in the period 2005–2007. The data were gathered in two different roles. One of the authors of this article (Romme) was involved as one of the key agents in the redesign and implementation processes (cf. participant-observer data). The other authors performed semistructured interviews and collected documentary data from the usual outsider perspective. The case-study approach in this article is a clinical rather than descriptive one. The clinical nature of the case study arises from its dual purpose to improve the spin-off performance of the incumbent university as well as to analyze and understand the underlying processes in this case.	This case study also suggests there are two fundamentally different phases in building capacity for university spin-off creation. First, an infrastructure for spin-off creation (including a collaborative network of investors, managers and advisors) is developed that then enables support activities to individual spin-off ventures. This study concludes that to build and increase capacity for creating spin-offs, universities should do the following: (1) create university-wide awareness of entrepreneurship opportunities, stimulate the development of entrepreneurial ideas, and subsequently screen entrepreneurs and ideas by programs targeted at students and academic staff; (2) support start-up teams in composing and learning the right mix of venturing skills and knowledge by providing access to advice, coaching, and training; (3) help starters in obtaining access to resources and developing their social capital by creating a collaborative network organization of investors, managers, and advisors; (4) set clear and supportive rules and procedures that regulate the university spin-off process, enhance fair treatment of involved parties, and separate spin-off processes from academic research and teaching; and (5) shape a university culture that reinforces academic entrepreneurship by creating norms and exemplars that motivate entrepreneurial behavior.	The case study suggests that emergent design processes can be essential in getting started as well as in experimenting with potential solutions. It also shows that a deliberate design approach can assure that the process stays on track by safeguarding and improving it, particularly by codifying design solutions and principles. More specifically, the set of design principles resulting from this study provides a benchmark for any future work that deliberately links efforts to increase spin-off creation capacity to scholarly research in this area. A limitation of the approach taken in this article is its restriction to a single case. The single-case-study approach provides opportunities to develop an in-depth understanding of the process of spin-off formation at a particular university, but it limits the generalizability of the study's findings. Moreover, future developments in the institutional context of universities may undermine the findings and principles arising from this study. The case study also produced two design principles that need further development. The design principle regarding supportive rules and procedures is not yet grounded in the university spin-off literature. A specific challenge is to decontextualize some of the issues arising from the TU/e case and to adapt them in such a way that they fit with another institutional context.	The Journal of Product Innovation Management, Vol. 25, Issue 2, pp. 114-128 (2008)	A / 21
van Gils, Maarten; Vissers, Geert and de Wit, Jan	2009	Selecting the right channel for knowledge transfer between industry and science	research and development, knowledge transfer, Europe, innovation	This paper aims to explore the relationship between the types of R&D-activities within science-based firms and the knowledge transfer channels used for industry-science collaboration. Rooted in a contingency approach, it seeks to identify patterns in the organization of knowledge transfer and to disclose ways that may support R&D-managers in achieving effective knowledge transfer. The paper is one of the first studies that empirically assesses the relationship between the types of R&D-activities in firms and the knowledge transfer channels that are used for industry-science collaboration.	The paper is an exploratory study in order to obtain a deep understanding of the relationship. At first, both the types of R&D-activity and the knowledge transfer channels were conceptualized based on an extensive literature review. Second, data were collected by means of semi-structured interviews with 17 (assistant) R&D-managers of ten large European chemical firms.	The analysis suggests that almost each of the knowledge transfer channels used for industry-science collaboration has a more or less unique link to a specific type of R&D-activity. An empirically based model is developed that visualizes the linkages. In addition, explanations for observed links are proposed.	The empirical analysis reported focuses on multinational firms in the science-based European chemical industry, because they invest heavily in R&D and are hence more interested in collaboration with scientific partners. Further research is needed to determine the model's applicability in other empirical settings, both within and outside science-based industries.	European Journal of Innovation Management, Vol. 12, Issue 4, pp. 492-511 (2009)	D / k.A.
van Looy, Bart; Ranga, Marina; Callaert, Julie; Debackere, Koenraad and Zimmermann, Edwin	2004	Combining entrepreneurial and scientific performance in academia: towards a compounded and reciprocal Matthew-effect?	knowledge interactions, inovation systems, university-industry relations	The increase of entrepreneurial activity within academia has raised concerns that the research orientation of universities might become 'contaminated' by the application-oriented needs of industry. Empirical evidence on this concern is scarce and ambiguous. We examine whether entrepreneurial and scientific performance in academia can be reconciled.	Empirical research, analysis. The sample used for this analysis consists of 14 LRD divisions, 8 of which are related to the Faculty of Applied Sciences. ANOVA (analysis of variance) results with regard to influence of discipline and division membership on number of publications. ANOVA to assess the impact of discipline, division membership and the nature of the publications on the total amount of publications.	Our empirical findings (KU Leuven, Belgium) suggest that both activities do not hamper each other; engagement in entrepreneurial activities coincides with increased publication outputs, without affecting the nature of the publications involved. As resources increase, this interaction becomes more significant, pointing towards a Matthew-effect. From these results, we tend to conclude that it is indeed feasible to organize both scientific and entrepreneurial activities, without one jeopardizing the other.	Our findings also point out several directions for further research. First of all, they need to be com-plemented with research efforts aimed at 'external' validation, i.e. extrapolating beyond the KU Leu-ven boundaries, though using the same finegrained type of data as applied within this analysis. Such complementary analysis's are needed to confirm the relevancy and robustness of the suggestions made with respect to the 'compounded' Matthew-effect spanning scientific and entrepreneurial activities. Also, it can be observed that our analysis implied research divisions active within the domain of more exact sciences; the question can be raised—and hence examined—whether the same dynamics can be observed within the social sciences. Additional questions on whether the content and especially the conclusions of basic science papers, are at all affected by more applied and commercially driven activities could be raised, especially when future patent applications may be at stake. Such complementary questions imply an in depth content analysis of article abstracts and could spur more nuanced conclusions on the skewing problem. Another useful addition to our analysis is the use of other indicators for entrepreneurial performance instead of the mere execution of contract research.	Research Policy, Vol. 33, Issue 3, pp. 425-441 (2004)	A / 103
van Looy, Bart; Callaert, Julie; Debackere, Koenraad	2006	Publication and patent behavior of academic researchers: Conflicting, reinforcing or merely co-existing?	knowledge interactions, university-industry relations, academic inventors	In this contribution, we examine whether the publication behavior of academic inventors (at K.U. Leuven) differs from their colleagues (non-inventors) working within similar fields of research.	A straightforward paired sample t-test for total numbers of (SCIE) publications inventors/non-inventors ($t = 2726$, d.f. = 31; $p = 0.01$); ANOVA results: difference in terms of publication output (year) between inventors and controls acting as dependent variable; relationship between the nature of the publications and the presence or absence of 'inventorship' was examined for the total group by means of a χ-square test.	Firstly, inventors publish significantly more than their colleagues who work in similar fields and who have similar career characteristics. Inventors tend to publish more than non-inventors, even years before the first inventive, patenting activity is observed. At the same time, it is apparent that involvement in patenting activities increases the publication difference in favor of inventors. Inventors publish more in technology-oriented journals of a basic nature. Hence, the results from our data analysis do not confirm the presence of a skewing problem in terms of an alleged shift of publication output towards the more technological or applied end of the publication spectrum at the expense of more scientific or basic-oriented publications. Rather, our findings support Owen-Smith's (2003) 'hybrid regime' view of commercial and academic activities, where achievement in one realm is in part dependent on success in the other.	It is clear that many tensions and problems arise in the current transformation taking place across the university landscape. As outlined by Nelson (2004), this transformation raises important questions concerning the openness of the scientific 'enterprise'. While our findings reveal that reconciliation between different activity realms appears feasible in this particular university at the level of individual faculty, increasing our understanding of how such positive effects unfold and under what conditions is an issue that should remain high on our research agendas.	Research Policy, Vol. 35, Issue 4, pp. 596-608 (2006)	A / 65

van Rijnsoever, Frank J.; Hessels, Laurens K. and Vandeberg, Rens L. J.	2008	A resource-based view on the interactions of university researchers	research collaboration, science-industry interaction, individual researcher, resource-based view	In this study we explain the use of different knowledge networks at the individual level from a resource-based perspective. This involves viewing networks as a resource that offers competitive advantages to an individual university researcher in terms of career development.	A survey was administered among the scientific employees working at Utrecht University. The response was 304 usable questionnaires. A linear mixed model was fitted with a random intercept to account for interdependencies within the departments.	Our results show that networking and career development are strongly related, but it is important to distinguish between different types of networks. Although networks on various levels (faculty, university, scientific, industrial) show strong correlations, we found three significant differences. First, networking within one's own faculty and with researchers from other universities stimulates careers, while interactions with industry do not. Second, during the course of an academic career a researcher's scientific network activity first rises, but then declines after about 20 years. Science–industry collaboration, however, continuously increases. Third, the personality trait 'global innovativeness' positively influences science–science interactions, but not science–industry interactions.	This study has limitations in terms of generalizability. First, the response rate of the survey is rather low. Second, we have only considered Utrecht University in our study.	Research Policy, Vol. 37, Issue 8, pp. 1255-1266 (2008)	A / 31
van Rijnsoever, Frank J. and Hessels, Laurens K.	2011	Factors associated with disciplinary and interdisciplinary research collaboration	interdisciplinarity, scientific career, academic rank, research collaboration	This study investigates what characteristics of researchers are associated with disciplinary and interdisciplinary research collaborations and what collaborations are most rewarding in different scientific disciplines. The research presented in this paper was motivated by claims (see National Academies, 2005) that interdisciplinary research is desirable for solving complex societal problems.	A survey was administered among the scientific employees working at Utrecht University in June 2006 (303 usable questionnaires). Data was binned into several ordinal categories. Because the dependent variable consists of ordinal categories, three ordinal regression models. Finally, to test the effects of interdisciplinary and disciplinary research collaboration on academic rank, an ordinal regression modelwasfitted, with the 'basic-strategic' variable interacting with the degree of disciplinary and interdisciplinary research collaboration. The other variables were added as controls.	Our results confirm that female scientists are more engaged in interdisciplinary research collaborations. Further, a scientist's years of research experience are positively related with both types of collaboration. Work experience in firms or governmental organizations increases the propensity of interdisciplinary collaborations, but decreases that of disciplinary collaborations. Disciplinary collaborations occur more frequent in basic disciplines; interdisciplinary collaborations more in strategic disciplines. We also found that in both types of disciplines, disciplinary collaborations contribute more to career development than interdisciplinary collaborations.	An important avenue for further research is to gain more insight into how researchers from the basic sciences can be triggered more to engage more into interdisciplinary research collaboration.	Research Policy Vol.40, Issue 3, pp. 463-472 (2011)	A / 18
Viner, Neil; Powell, Philip and Green, Rod	2004	Institutionalized biases in the award of research grants: a preliminary analysis revisiting the principle of accumulative advantage	peer review, bias, grants	Examine the extent to which those with most power to influence funding decisions are also those to whom most resource flows, and the implications of the observed distribution of resources for the legitimacy and hence authority of the process. Associations between success in securing grants and potential sources of advantage are explored, including membership of the peer review cadre, departmental standing, track record, gender and ethnicity.	Using grant submissions data to a UK Research Council. Using primary data drawn from the EPSRC management information system a 'most active group' (MAG) was defined as the group of heavy service users comprising individuals submitting five or more proposals to EPSRC, or receiving at least three funded grants from three or four submissions, over the period 1995–2001. The relationship between membership of the two main groups of the MAG and the sub-group Sybil and a number of other features was explored using Chi-square tests of association.	Success in securing grants is associated with several potential sources of advantage, suggesting that factors other than the quality of the research proposed influence outcomes. Differential access to these may contribute to the observed biases in the number of grants won against women and non-white groups. The data allow the conclusion to be drawn that resources do seem to flow disproportionately to those with power in the distribution process. Argues for recognition and talent for research leading to inclusion, but the differences in winning grants between college members and non-members in both Sybil and Sysiphus suggests there is direct advantage to participation in peer review, particularly when the previous history of involvement of Sybil members is considered such that they are more likely to be carried forward between cycles of college appointment. Frequent success amongst those who obtain grants is associated with a number of factors that may be viewed as conferring advantage. Association does not imply causation, but neither should it be assumed that this is the natural outcome of a process whereby the 'best' researchers accumulate advantages as a result of the quality of their ideas. To be disadvantaged may derive from direct bias against an individual or group, but it may also arise from a relative lack of an advantage enjoyed by others.	By testing the evidence against the models some insight may be gained; it may not be possible to prove the merit model holds, but any evidence of bias or that advantage does accumulate disproportionately to particular individuals proves its hold is not total. Such a conclusion raises questions as to the legitimacy of the process and acts as stimulus to further investigation and action. Further, the sample used in the NSF study was not representative, comprising a 50/50 mix of funded/not funded proposals from a single year.	Research Policy, Vol. 33, Issue 3, pp. 443-454 (2004)	A / 14
Wright, Mike; Clarysse, Bart; Lockett, Andy and Mirjam Knockaert	2008	Mid-range universities' linkages with industry: Knowledge types and the role of intermediaries	universit-industry linkage, university spin offs, licensing, technology transfer	We analyze how mid-range universities can contribute to industrial change through the transfer of tacit and codified knowledge in the areas of spin-offs; licensing and patents; contract research, consultancy and reach-out; and graduate and researcher mobility.	We use archival, survey and interview data relating to mid-range universities in mid-range environments in the UK, Belgium, Germany and Sweden.	Our findings suggest that mid-range universities primarily need to focus on generating world-class research and critical mass in areas of expertise, as well as developing different types of intermediaries. Only if sufficient critical mass is created, can a sound IP strategy be developed for the research department and eventually spin-offs become a possible outcome. Mid-range universities may, therefore, need to develop a portfolio of university–industry linkages both in terms of the scope of activities and the types of firms with which they interact. While licensing and patenting represent the transfer of codified knowledge, the development of collaborative contract research and consultancy may be mechanisms jointly to build tacit knowledge. We also show that different intermediaries have important roles to play in developing university-industry linkages for mid-range universities.	In order to obtain insights into the extent of these activities, the processes involved in developing these activities and the barriers faced, the study focuses on detailed analysis of a small number of cases.	Research Policy, Vol. 37, Issue 8, pp. 1205-1223 (2008)	A / 57
Youtie, Jan and Shapira, Philip	2008	Building an innovation hub: A case study of the transformation of university roles in regional technological and economic development	universities, regional innovation, tacit knowledge, boundary spanning	Examines how the role of the university has evolved from performing conventional research and education functions to serving as an innovation-promoting knowledge hub though the case of Georgia Institute of Technology (Georgia Tech). This case is discussed in the context of state efforts to shift the region from an agricultural to an industrial to an innovation-driven economy. Comparisons between Georgia Tech's experiences and those of university roles in selected other catch-up regions in the southern United States highlight the importance to the case of networked approaches, capacity building, technology-based entrepreneurial development, and local innovation system leadership. Insights on the transformation of universities and the challenges of fostering a similar transformation in regional economies are offered. This paper has suggested an evolution in the roles of universities from knowledge storehouse (mode 1) to knowledge factory (mode 2) to knowledge hub (mode 3).	Comparisons between Georgia Tech's experiences and those of university roles in selected other catch-up regions in the southern United States. Case study of the evolution of Georgia Tech as a knowledge hub. This focus on networked programmatic elements, capacity building, knowledge pool creation, and technology-based entrepreneurship has fostered the important transformation of Georgia Tech from a knowledge factory to an "animateur" of development.	We note that the university tends to accumulate roles. We do observe a general tendency across many advanced countries for universities to seek (or be pushed) towards greater linkages and relevance for innovation, particularly in regional contexts. In contrast to earlier modes, these knowledge-hub institutions not only accumulate and produce knowledge, but they also actively foster knowledge exchange, learning and innovation through new methods and the development of boundary-spanning activities. We note that university R&D, startups, and other knowledge-transfer programs are important, but by themselves may not be enough to turn around an innovation system. The Georgia case shows, universities are more likely to be able to address the problems and opportunities of their regions if they pursue active institutional engagement to generate and share human capital, knowledge, leadership and other resources. There are no clear-cut technical or financial solutions to these and other critical economic, societal, and environmental problems, a common theme is the need to develop new capabilities, including the capability to pursue informed joint actions involving multiple stakeholders targeted towards implementing innovative regional and local approaches.	Of course, this is a highly abstracted simplification.	Research Policy, Vol. 37, Issue 8, pp. 1188-1204 (2008)	A / 41

Yusuf, Shahid	2008	Intermediating knowledge exchange between universities and businesses	university-industry linkages, intermediaries, tacit knowledge, technology, licensing offices, knowledge integration, community	The papers in this special section describe and discuss various intermediary mechanisms that assist universities in transferring knowledge and aiding the process of innovation.	Describing and discussing various methods with the aid of literature.	It is in the leading universities and the universities with strong and widly recognized research specializations that can engage in substantial and mutually advantageous knowledge exhange with the industry.	No single recipe is clearly superior but examining a variety of experiences helps to highlight the strengths of specific intermediary processes and to identify some of their shortcomings. Our current understanding of the intermediation process is such that no precise formula can be defined. This will call for an appropriate balance among incenives for faculty and a matching allocation of resources. Government policies and public institutions can reinforce these incentives and ensure that key research universities not only build human capital but also contribute to industrial innovation. How such a balance can be struck is far from clear, but research is bringing us closer to effective policies for universities and governments.	Research Policy, Vol. 37, Issue 8, pp. 1167-1174 (2008)	A / 33