

CHANGING THE CONTEXT OF RESEARCHERS'
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ABSTRACT

The main purpose of this paper is to explore the changes that have occurred in the work of academic researchers. It also addresses particularities and changes affecting the professionalisation processes in the last five years. Within the framework of the sociology of professions, it complements analyses of statistical data with a qualitative study in Slovenia and from selected European countries. The paper finds that the organisation of researchers' work and its position as a semi-profession is deteriorating dramatically. Researchers are confronted with the pressures of reduced public funding, higher unemployment, short-term research contracts, unproductive internal and external competitiveness and detachment from teaching processes.

Key words: professionalisation, academic researchers, precarisation of work, economic crisis

CAMBIAMENTI NEL CONTESTO DEL LAVORO DEI RICERCATORI UNIVERSITARI

SINTESI

Questo lavoro ha come obiettivo principale l'esplorazione di come si sia modificata nel tempo la professione del ricercatore universitario. Vengono descritte le peculiarità e i cambiamenti intervenuti negli ultimi cinque anni nel percorso di formazione professionale. Nell'ambito della sociologia del lavoro, si presentano i risultati degli studi che combinano l'analisi di dati statistici e qualitativi sull'attività dei ricercatori sloveni e di un gruppo selezionato di altri paesi. I risultati delle analisi indicano che l'organizzazione del lavoro dei ricercatori e la sua caratterizzazione come una "quasi professione" si sta deteriorando in modo drammatico. I ricercatori devono affrontare la pressione di fondi pubblici ridotti, elevata disoccupazione, contratti di lavoro di breve durata, improduttiva competizione interna ed esterna e progressivo allontanamento dall'insegnamento.

Parole chiave: professionalizzazione, ricercatori universitari, precarietà del lavoro, crisi economica

INTRODUCTION

Over the last decade processes of globalisation and the economic crisis have considerably changed the context of employment and working conditions in the Western world. One of many occupations which has experienced significant change is the researcher, an occupation that in the knowledge cycle generates new knowledge and therefore importantly contributes to the development of science, technology and society. In this paper we explore how the work of (academic) researchers has altered in recent years, and which driving forces have contributed to its deprofessionalisation.

The broader context of societal changes that present the relevant context of work were already theoretically described before the last crisis. Beck (1992) and Giddens (1994), for example, gradually developed the concept of the risk society in which norms and values are under threat. Hall and Soskice (2001) claimed that welfare systems and education systems are experiencing large transformation processes. In particular, social security mainly based on employment, unemployment and wage protection is becoming an increasingly flexible category (Estevez-Abe, Iversen and Soskice, 2001), which might be in line with the concepts of the knowledge-based society promoted politically a decade ago (Lundvall, 2001).

Due to 'leaner' and 'flatter' organisations Western labour markets are not only experiencing a decline in the number of jobs but also a decline in their quality (Heyes, 2011; Bieling, 2012). Job security is confronted with cost cutting, downsizing and outsourcing. A large proportion of jobs has experienced changes in payments, work time, continuity and the nature of employment relations. These factors indicate a general transition from traditional to customised careers (Valcour, Bailyn and Quijada, 2007) and changes in the proportion between 'good' and 'bad' jobs. In terms of full-time and lifelong perspectives, traditional careers are becoming increasingly rare. This situation is also accompanied by career success and family life value changes (Guest and Sturges, 2007: 312; Kanjuo-Mrčela and Černigoj-Sadar, 2011).

A scientific tradition that well explains how these external changes are related to personal experience of the nature of work is the sociology of professions and its concept of professionalism (e.g. Abbott, 1988; Freidson, 2001; Evetts, 2011). Scholars in this field have for several decades already been stating that a large number of professionals are experiencing the deprofessionalisation of their work. They are caught in a paradox of knowledge empowerment and knowledge standardisation (Rifkin, 1996), which is framed by globalisation processes (Friedman, 2006) and the repositioning of cultural values towards a wide new spectrum of services and the professionals who produce them (Cetina, 2006).

The occupation of a researcher working in the academic sphere is no exception here; on the contrary.

While universities have traditionally played several roles in society such as legitimating professional domains, regulating social stratification, generating new developments and training new professionals (Abbott, 1988: 196), they are now faced with the massification of student enrolments, marketisation, cooperation with industry and calls for transparency (Zgaga, 2009). A key reason for this is the cuts in public finances whereby research and higher education systems are now expected to "do more with less" (OECD, 2010). In this situation, researchers seek to protect their core mission vis-à-vis external factors and do not want to become totally subordinate to emerging academic 'professionals' and teaching staff.

In this paper, we explore changes that have happened in the work of the academic researcher. The paper starts by considering the broader discourse of occupational (de)professionalisation. Second, it presents the profile of researchers' work and describes particularities of researchers' body of knowledge in relation to identity, ethics, values and careers. Third, it presents statistical data on researchers' employment in Slovenia. Fourth, it complements these data with a qualitative survey on changes in researchers' work in Slovenia in terms of the identification and explanation of professional work, factors of career success and the drivers of these changes. The results are subjected to a (preliminary) comparative evaluation by experts from selected European countries. By providing a theoretical and empirical overview of the functional role of researchers' work, the paper offers recommendations for future developments in this interdisciplinary area which can also be applied to other occupations.

OCCUPATIONAL PROFESSIONALISATION AND DEPROFESSIONALISATION

Theory of occupational professionalisation

For several decades sociological theory described *professionalism* as: i) a special organisation, ideology and experience of work; and ii) an occupational or normative value in the process of achieving personalised results. Professionalism has traditionally been contradicted by bureaucratic rules and the free market. However, in recent times sociological analyses have demonstrated that professionalism has started to merge with administrative and market principles, which has been labelled as the process of occupational deprofessionalisation or organisational professionalism (Evetts, 2013). As a result of this, traditional differences between professions and other occupations are becoming blurred. Yet it is important to consider classical theoretical approaches as they offer a proper analytical framework for studying ongoing changes in the world of contemporary work.

Those occupations which are the most respected, organised, institutionalised and attached to public finances have traditionally been labelled *professions*. Exam-

ples typically include medical doctors and lawyers, who for several decades have gained a strong jurisdiction over their own professional domain – also on the basis of professional knowledge and competencies which it is generally believed can only be acquired in long and demanding formal (higher) education (Freidson, 2001). Professions, in theory, have an authority and jurisdiction to identify and exclusively perform tasks in their domain. In this way they are different from other occupations. The process by which a certain occupation becomes a profession has been described as *professionalisation*. This is a very fragmented concept that in theory is related to the social division of work, training of professional workers, social stratification, and generating of an occupational culture (Rus, 1979: 1482). Several authors (Abbott, 1988; Freidson, 2001) also see professionalisation as the process of creating a monopoly or jurisdiction over the utilisation of professional work.

In studies of professions, professionalisation and professionalism one can identify several theoretical approaches. The early *functionalistic perspective* took the position that a profession emerges due to the societal need for particular professional expertise. In this tradition, professions have been described as one of the key factors in society and also as links among individuals and the state. This perspective triggered debates related to the identification of professional elements as well as differences between professions and other occupations (Siegrist, 1990; Brante, 1990). The *critical ideological perspective* is more concerned with the basis upon which professions gain a special social status and power (Larson, 1977; Burrage, 1988) and what this means for changes in social stratification (Macdonald, 1996). The third approach is known as the *system of professions* (Abbott, 1988) that combines direct observations of professional work and professional jurisdiction with a historical analysis of professions and contains both perspectives.

For the purpose of this paper it is particularly important to distinguish between the *intrinsic-personal* perspective of professional work and the *extrinsic-group/social* perspective. On the intrinsic-personal level, the sociological tradition has focused on the relationship between work and other attributes of occupational professionalisation such as identity, autonomy, ethics or regulation. The extrinsic-group/social perspective has studied similar elements complemented with observations concerning how professions form institutions, how they gain jurisdiction over a particular domain, how they compete against each other and what is the importance of external factors for occupational changes (Pavlin, 2007). It is not rare for such research to combine both approaches.

In this way theories of the sociology of professions can be well complemented with career studies (Gunz and Peiperl, 2007). These approaches question the extent to which careers are the results of personal abilities in comparison to social determinism, external circumstances versus individual choice and how individual, or-

ganisation or society benefits from them. Similar to the intrinsic personal perspective of the sociology of professions, career studies observe outcomes of work such as performance or identity, processes of career stages, life cycles and typologies.

Towards occupational deprofessionalisation

Discourse on the proletarianisation and deprofessionalisation of occupational work started already in the late nineteenth century (see Marx, 2012/1894), and has recently re-appeared due to globalisation and the economic crisis (Kreutzer, 2003; Barley, 2005). With a growing number of university-educated workers over the last decades (Freeman, 1976; OECD, 2012), the concept of professionalisation is increasingly related to private capital and management (Hinings, 2005), and is losing its links with professional organisations.

The central question in studies of occupational deprofessionalisation explores how organisational governance, management, regulation, performance evaluation and auditing measurement impact the organisation of professional work and professional skills, and vice versa. Little is currently known about how these changes are linked to higher quality, efficiency and customer satisfaction. Discourse in the area of occupational professionalisation has also been described as a shift from occupational to organisational professionalism in reference to changes in the organisation of work, trust of clients with regard to professional services, practising work ethics, authority and responsibility (Evetts, 2013: 11).

Associated with this, Freidson (2001: 212-213) claims an important factor and consequence of occupational deprofessionalisation is rooted in the reduction of basic research which is the reason several professions are being forced to reduce their theoretical work and focus only on applied private work. Freidson believes this path only involves the solving of current problems and does not enable occupational development and adaptation to new technological processes. As a result, professions are being exposed to specialisations and heterogeneity (Hövels, 2004).

In a nutshell, we can describe the process of occupational deprofessionalisation in four ways: i) as a weakening link between professional work, identity and ethics; ii) the general downgrading of the working conditions of professional workers; iii) the increasing internal competition of professional workers from a particular domain among themselves and also with other professions; and iv) a rise in bureaucratic and managerial work tasks. Hence, *occupational deprofessionalisation* can be described in general terms as a process in which occupational practitioners or occupational groups weaken professional elements such as theoretical knowledge, its practical applications and development, identity, identification, ethical standards, state funding and autonomy.

CHARACTERISTICS OF RESEARCHERS' WORK

The job of a researcher is typically related to designing and implementing research projects in various disciplinary areas (see Neumann, 2009). This involves the manipulation of knowledge from its creation, dissemination and utilisation. The researcher's work is typically characterised by the highest level of formal education and strong analytical skills needed for conducting qualitative and quantitative research. Researchers' operational principles are characterised by networking in the sense of a community of practice (Wenger *et al.*, 2002) in which groups of people share a concern, a set of problems, or a passion about a topic and deepen their domain. The work of researchers has recently been the subject of increasing changes caused by institutional, national and international factors linked to funding principles and work regulations. The outcome is that researchers and academic roles are ever more multi-faceted, fragmented and hybridised which relates in particular to the polarity – rather than the complementarity – between teaching and research. This is causing serious tensions in professional and personal areas of life (Ylijoki and Mäntylä, 2003).

A researcher has one of very few occupations whose main purpose is characterised by the process of knowledge creation and in this way it is different to the majority of other occupations that mainly utilise or disseminate knowledge. The core of researchers' work is well described by Boisot's model (2002) which describes knowledge creation with polarities between abstraction and concreteness, also referring to diffusion and codification. Abstraction means generalisation from concrete cases, and can be a twofold concept: reduction in the sense of a lack of specific contents, as well as formalisation in terms of providing frameworks, systems and methodology for the understanding of knowledge (Harald, 2003: 46). The complexity, broadness and controversy of researchers' tasks and competencies can also be seen in the occupational competency model developed by researchers at the University of Ljubljana in the course of the international DEHEMS project (2013-). According to this competency model, the spectrum of researchers' tasks includes: searching and applying for research projects, national and international networking, primary and secondary data analyses (qualitative and quantitative), writing project reports, technical specification of project reports, financial reporting, support to administration, managing auditing procedures, scientific publishing and supporting academic processes. These tasks require several generic competencies which until recently were more typical of the business sector: time management, stress management, team work or asserting authority against others. Professional competencies are related to own other disciplinary areas, methodology and teaching, and also include knowledge of foreign languages and special computer skills.

The core of researchers' work relates to applied and generic research. One could say that researchers do not generate science (only) for their own sake, but for associated professions in their own and other areas and for a wider range of stakeholders. In essence, their work reassembles and deepens all work processes of other professionals. Following Eraut (2006: 49), this includes understanding new situations, recognising which areas of knowledge are relevant to a particular situation, utilising those procedures which are needed for a particular decision or action, and have the capacity to transform previously acquired explicit knowledge and rules to suit new situations. The work of researchers is clearly based on an investigative type of vocational identity for which it is typical to have a strong scientific interest, to work with ideas and to have developed intellectual competencies related to reading and researching (Savickas, 2007: 83), and therefore seeks a corresponding work environment.

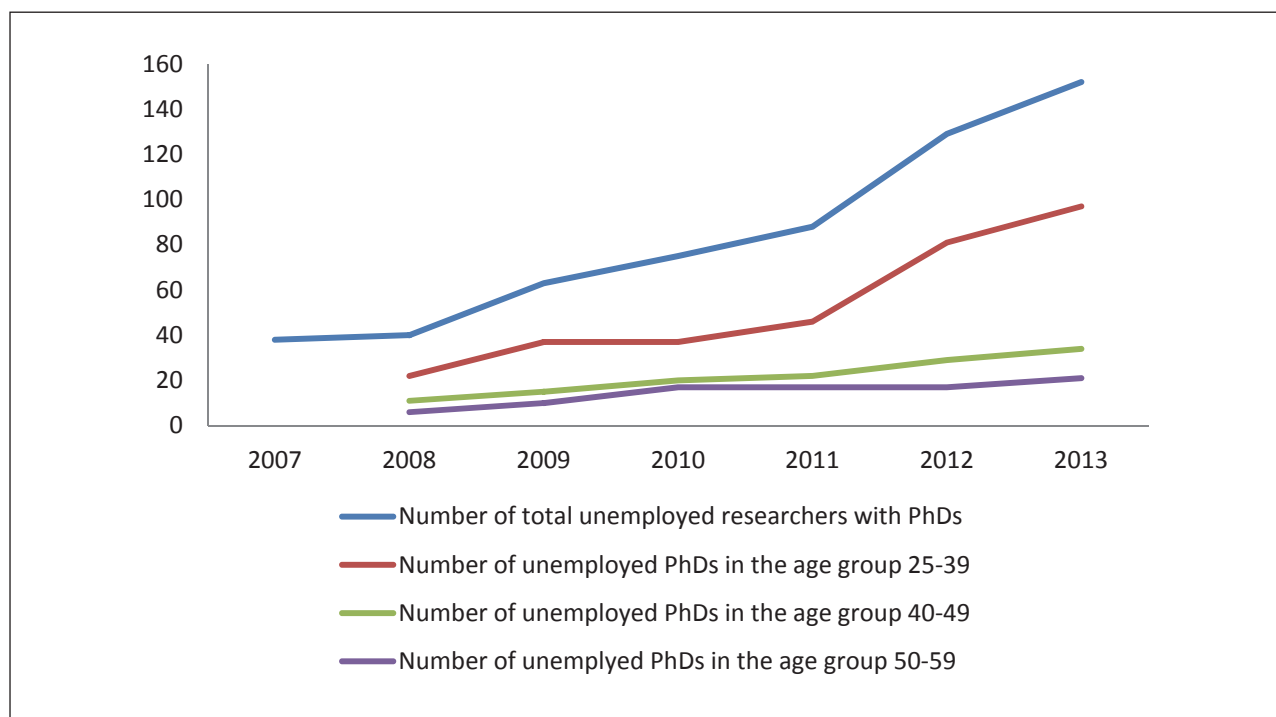
Since researchers' work is fluid and dynamic in nature and relates to different scientific disciplines, one might speculate that it is researchers' segmentation that has prevented this occupation from becoming a full profession. The occupation of researcher has instead been disintegrated into various industry sectors, academic disciplines and *attached* to other occupations and jobs like, for example, academic teachers. Researchers' work is therefore trapped in its exploration phase and finds it hard to establish or maintain its own position within an organisation. The downgrading of researchers' working conditions, global competition and the burdening of core tasks by administrative and managerial tasks makes an academic researcher one of the most quickly deprofessionalised occupations experiencing a spiral or transitory career type which is composed of several different careers – related to a particular contracting agency that stipulates changes in the nature of researchers' work.

We test the propositions set out above and earlier with an empirical case.

EXPLORING THE DEPROFESSIONALISATION OF RESEARCHERS' WORK IN SLOVENIA AND IN SELECTED EUROPEAN COUNTRIES

Short Elaboration of the Methodological Approach

The methodological approach in this paper builds on three interrelated steps. First, we present synthesised statistical data from various sources on the employment of Slovenian researchers. Second, we complement the conclusions and assumptions of the first step with a qualitative survey (face-to-face interviews) among 20 researchers in Slovenia. The respondents from various Slovenian universities and respective research institutes were aged 30 to 50 years. The selection of researchers was also proportionally distributed according to gender, disciplinary areas (hard and soft sciences) and geographic regions. All of the selected researchers have predominantly been engaged in scientific research (consuming at least 50 percent of their working time) in the



Sources: Statistical Office of the Republic of Slovenia (SORS), 2012; Slovenian Research Agency (SRA), 2013; Slovenian Ministry of Education, 2010, Employment Office of the Republic of Slovenia, 2013

Graph 1: Number of unemployed researchers with a PhD according to age groups, 2007–2013

last five years. Their remaining working time has mostly been devoted to university teaching and only exceptionally to other activities – which, over time, can be subject to variation. Given the resources available, in the view of the authors this figure and the composition of the interviews best complements the richness of the information and explanation of the results obtained in the previous quantitative data analysis. Particularly in the case of surveying occupational professionalisation, it is necessary to apply the principles of triangulation since relying on just one single method does not assure reliable and valid findings (Denzin, 1978/1989; Pavlin and Kogovšek, 2007).

The content of the interviews was related to the theoretical framework presented earlier in the paper and explored changes and relations among the following elements: the development of competencies, the determinants of professional success, work conditions, satisfaction, professional values, monetary aspects, overall organisation of work and, in particular, the bureaucratic principles, professional ethics and institutional arrangements. The time frame for assessing changes was the “last five years” (including 2008, and onwards). After analysing the interviews and synthesising the results, three analytical sets of problems were identified regarding changes in: i) professional expertise and professionalism; ii) employment status, ethics and career development; and iii) bureaucratisation and entrepreneurship. Third, the Slovenian results were assessed by experts from 10 European countries. The authors selected the countries

based on Hall and Soskice’s (2001) premises of varieties of countries in relation to welfare, labour market and education system regimes in a way so that at least one country from traditional each traditional country cluster clusters – north social democratic, continental, liberal, southern European and transitional – is represented in the sample.

Context

General situation – A case study on the hypothesis of researchers’ (de)professionalisation is conducted in Slovenia, a Central European country with restrictive labour regulations and employment protection and an education system close to the German model. Around 40 percent of all researchers in Slovenia are employed in higher education and NGOs, 40 percent in the private sector (of whom some are researchers associated with academia) and 20 percent in the government sector. Data from different statistical sources show that the employment of researchers during the last five years has become extremely problematic. The number of new jobs in research is going down overall, whilst the number of individuals with appropriate education to work in the research field has disproportionately increased (SORS, 2012; SRA, 2013; Slovenian Ministry of Education, 2010).

The wider gap in the number of jobs and job-seekers in the field of research activities is most evident in records showing the number of unemployed researchers

Table 1: The number of reported young researchers funded by the Slovenian Research Agency 2008–201

	2008	2009	2010	2011	2012	2013
Natural sciences	66	87	72	80	66	53
Engineering	85	84	70	76	54	51
Medical sciences	28	27	23	21	18	14
Biotechnical sciences	36	27	22	20	16	13
Social sciences	24	30	25	24	18	16
Humanities	26	27	24	20	16	13
Interdisciplinary research	8	18	14	9	12	
Total	273	300	250	250	200	160

Source: Slovenian Research Agency (SRA), 2013

with a PhD. The data for 2008 reveal that the number of researchers with a PhD working in R&D activities in Slovenia is 4,087 of the total 16,243 employees engaged in R&D activities (SORS, 2012). According to estimates of official statistical data, at the end of 2012 there were 130 unemployed researchers with a PhD, whereas in 2013 the number is currently approaching 450 (Graph 1).¹ The data reveal that most unemployed PhDs come from the younger age groups, but they do not stay unemployed for longer periods² in comparison to other age groups.

Graph 1 illustrates the trend of the rapid growth of unemployed researchers with a PhD in general and according to specific age groups. Based on the data we can assume that the field of research is experiencing deep socio-economic structural changes that are gradually reducing the number of research-related jobs and, consequently, increasing the number of unemployed researchers registered with the employment office. It is highly probable that the upward trend of PhDs' unemployment will continue due to the existing structure of research jobs.

Young researchers – A programme for young researchers is the biggest national mechanism for training new researchers in academia. It was intended to gradually educate young researchers to obtain a PhD so they

could evolve into “full-time researchers” with a stable employment relationship. However, instability in the economy, unclear state management, i.e. the distribution of institutional competencies between public bodies that govern the R&D field and the reduced financial contributions to schemes related to young researchers, have strongly impacted on the working conditions of young teams of researchers in the academic and business sectors³ (SORS 2013).⁴

The problem of the professional training of young researchers is only one part of the worrying trend in the research field. The second part involves the unstable situation in the employment market, i.e. after young researchers have obtained their educational title. If the workload of young researchers in the business sector is greater than the potential burden put on young researchers who are funded by the Slovenian Research Agency (SRA), it must be emphasised that funding for these groups has been in decline since 2008 (SRA, 2013), while the total amount of financial sources for higher education and science has in the last two years been reduced by approximately EUR 30 million.

Nonetheless, the key problems for the group of SRA-funded researchers, despite the progressive cuts in financial support, appear after they have earned their

1 Due to a lack of specific information derived from official statistics of the Employment Office of the Republic of Slovenia, the above figures are merely indicative and not representative of the entire group of unemployed PhDs. For example, in 2010 less than 29 of a total of 66 unemployed PhDs did not indicate their vocational and professional education. It is important to mention that the field of natural sciences and engineering employs the largest number of researchers. Accordingly, the proportion of unemployed from these fields in relation to the total population of unemployed researchers is still the lowest. Unemployed PhDs by category in 2010: Natural sciences (0.4%); engineering sciences (0.3%); medicine (0%); agricultural sciences (1.0%); social sciences (0.8%) and the humanities (0.7%).

2 For example, in 2013 the group of younger unemployed PhDs (aged 25–39 years) stayed unemployed between 3 to 9 months, whilst the older groups (aged 40–49 and 50–59) remained unemployed for approximately 20 months (SORS 2013).

3 Cooperation between the academic and business sectors in the area of young researchers experienced key changes in the 2010–2011 period. During that period the transfer of management power from the Slovenian Technology Agency to the Ministry of Economic Development and Technology was implemented. After the transition period, specific provisions which had protected young researchers from pressures from employers were removed. According to the new legislation, young researchers from the business sector need to pay their university tuition fee themselves as an employer who receives co-funding for the employment of young researchers is no longer bound to pay tuition fees. Those changes may indicate considerably higher dependence on financial support from the employer and hence a greater burden on young researchers.

4 Data on the emigration of PhDs are currently not available. Data on overall migration abroad indicate a gradual increase in the extent of emigration since 1995 (SORS, 2013). In 2012 the number of Slovenian citizens emigrating was extremely high – 8,191 people emigrated from Slovenia, while only 2,741 people immigrated into Slovenia.

PhD. In this regard, new researchers with PhDs are beginning an extremely unstable career because employment in the public sector is being reduced and there is an ever greater surplus of researchers in the job market. According to the SRA (2013), 1,433 young researchers were reported as being supported by the Agency in the 2008–2013 period (Table 1) and the total number of enrolled doctoral students exceeds 3,000. Based on these figures, the following assumptions can be made. The increase, i.e. surplus, in the number of PhDs in the labour market could lead to the greater instability of researchers' potential career paths. In addition, the unclear institutional relationships and responsibilities among state institutions result in an insufficient or weak way of detecting important micro socio-economic changes taking place at the level of researchers' working conditions that thereby hinder researchers' career development. We could also speculate that, due to the poor supporting platform for the transition of young researchers to the job market, young researchers are poorly motivated for career planning and experience high levels of social and economic instability during different career phases.

In the next section of the paper, we further explore these statistically based conclusions and assumptions with the qualitative interviews. Twenty semi-structured interviews were conducted in June and July 2013 in three Slovenian universities and four research institutes within the academic system. We analytically considered two broad disciplinary categories: science and engineering (which includes medicine), and the social sciences and the humanities.

Discussion of the Results from the Qualitative Interviews in Slovenia

Professional expertise, satisfaction and development

– The researchers are usually quite satisfied with the nature of their work and would not easily switch to another job. They especially valued autonomy in organising their work processes, working methods and goals, controlling the rhythm of their work, and professional communication with colleagues – notably intensifying and extending the “networking” principle of communication. They emphasise the fact that their work is very specific with regard to the knowledge and skills required. It is evident that their particular expertise and specialisation is strongly part of its identity. Thus, retraining and redirection towards a fundamentally different type of work would be quite challenging should they not be able to continue in their profession.

New discoveries and approaches require a focus on goals, continuity in research and freedom at work. The more subjective employment security and relative autonomy at work are present, the more satisfaction will be derived from one's work, and a stronger work ethic maintained. The responses also reflect a self-critical awareness of the fixation on the cocoon of one's own profession, and the increasing need to open up

beyond one's narrow specialty (within the same profession, among other professions, and society more generally). Work experience and satisfaction are particularly strongly eroded by the pressure of the quantification in the evaluation of research results which may not objectively reflect one's achievements. Again, the elements of perceived career success depend principally on the balance between employment security and autonomy at work at different levels. This permits the development of professional networks, publication and presentation of research results, accumulation and dissemination of knowledge, as well as professional integrity.

According to the respondents, professional development chiefly consists of international recognition in the profession, positive feedback in the specialty or research field, important publications and highly ranked citations, or successful patent applications and grants. The ever more precarious nature of research, such as waiting for a decision on a research grant or the acceptance of an article for publication, along with negative reviews and rejections, may be quite distressing for many individuals and might take away their energy and motivation for further work.

Employment principles, ethics and career development – The growing need to devise survival strategies, accompanied by the fear of job loss and failure to win research projects, may result in opportunism and conformism, unhealthy competition, deepening conflicts among colleagues and, consequently, personal frustrations which may impact the quality of work. In many senses, according to the respondents, the nature of the research profession is undergoing increased *precarisation*. Within research groups, valuable time and energy is spent on constantly reallocating researchers to various projects or even to tasks not related to research.

Unprincipled coalitions (strategic alliances) and hierarchies are established on non-meritocratic criteria, seniority, favouritism, cementing positions of power and fortifying connections with research policy decision makers. The younger the respondents, the more precarious their employment status has been, irrespective of their research results and professional competencies. Formal promotion to higher academic titles does not guarantee better employment security or an increased income. The upward mobility of a profession does not work since the institutional mechanisms are unclear or, in some cases, are not operational. Besides personal insecurity, conflicts within research groups and unstable project-based research, the respondents also mention the lack of systemic rules, especially in the relationship between research and teaching at university.

Job definitions related to teaching and research are completely untenable from the point of view of the university; these systemic uncertainties do not permit the transfer of research results into teaching, which contradicts the mission of higher educational principles. In addition to the dependence on winning research projects

and, consequently, the significantly lower employment security of researchers, they also experience less professional prestige within the academic community and lower levels of academic autonomy. Apart from achieving appropriate working position systematisation, some respondents also expect a transparent and objective evaluation of research and teaching integrity and the objectification of research results. In this regard, they feel the need to 'take the consequences' which, for certain individuals, should result in dismissal from a job or temporary exclusion from academic positions based on insufficient research outcomes over a longer period. Although we detected different viewpoints, the suitability of their salary is, generally, not viewed as a major problem, especially in relation to employment security.

There is no opposite systemic differentiation between independent research institutes (e.g. the Jozef Stefan Institute) and university-affiliated research centres. Likewise, no differentiated typology is available for evaluating the wider social benefits of research results (by particular research disciplines) as is applicable in industry. There is a distinct discrepancy between the systemic arrangement and specific nature of a profession on the level of the institutional valuation of the profession.

"Bureaucratic entrepreneurship" – The respondents described the institutional arrangements colourfully and critically as: unacceptable, intolerable, catastrophic, degenerative, untransparent, highly bureaucratic and incongruent with the nature of work. There are many problems: No officially defined relationship between teaching and research exists on the job definition level in academic professions, as we already stressed relative to job security.

According to the respondents, the field itself is strongly bureaucratically organised. A growing administrative burden is placed on the activities of a researcher: writing reports, the need for painstaking administrative paperwork for the payment of expenses through different tenders, an increasing fixation with working hours and mechanically controlled presence in the office. A special aspect of administrative procedures can be observed in the expected 'entrepreneurial' skills for winning research grants. A rising amount of time is spent on paperwork for research applications, accompanied by a growing likelihood that an application will not be successful at the end of the procedure. According to the respondents, the tendency towards project research is also, if too time-consuming, incompatible with the nature of research. Project-based research is not sustainable for the actors (research groups) in terms of organisation and time frames, nor financially.

On the level of research applications and the evaluation of research results the criteria are becoming ever more restrictive; however, this is not properly reflected in qualitative evaluations taking the nature of work into

account. It seems that the high levels of the quantification of research evaluation are not transparent and are very narrowly standardised, along with the constantly changing rules on the classification of published research, patent applications and citation counts. The respondents mostly agree that the logic of "hunting for points" (particularly for those highly ranked) has been pushed to absurd levels. It no longer reflects genuine research results or valuable benefits to society, and encourages unhealthy forms of competition among researchers. Some researchers have learned very well the specific particularities of quantitative evaluations and adapted to the systems very efficiently so that they are successfully profiting from valuable formal quantitative rules and points. They organise all of their research activities with this sole goal in mind.

Only small differences related to disciplinarity – Contrary to expectations, we cannot corroborate a hypothesis concerning significantly different valuations (understandings) of the professional position in two analytical groups: i) the social sciences and humanities (SSH); and ii) natural sciences and technologies (NST). The difference mostly emerges in how the problem is articulated. The most distinctive is a different articulation of autonomy and freedom. In the SSH group, the erosion of critical thinking (a consequence of decreased work autonomy) is the prevailing cause for concern. In the NST group, the prevailing concern is the loss of control over the selection of work methods and goals. In the SSH group, we noticed a more consistent and strong emphasis on the viewpoint of ensuring a balance between individual work autonomy and work security in preserving professional ethics. The NST group is in this sense more pragmatic and emphasises the significance of the natural organisational hierarchy plays in the quality of the tasks completed. In the NST group, professional ethics is understood in a narrower sense, more as a personality trait and less in the sense of benefits to the professional community and society at large. Among the SSH and NST groups we found no differences in institutionalised organisation, the incursion of market logic into the research domain, methods of work valuation, and the definition of career success.

Comparison of the Slovenian Results with Selected European Countries

We conducted a preliminary analysis of the researchers' comments regarding their research situation and potential trends towards the deprofessionalisation of research work with the objective of contrasting our findings with experts from 10 European countries⁵. The different institutional arrangements in these countries impede a comparison and any more effective generalisations. However, for the purposes of this analysis it was

5 Austria, Belgium, Cyprus, Finland, Germany, Hungary, Latvia, Russian Federation, Spain and United Kingdom.

possible to disregard such differences and focus on the central premise of the increasingly uncertain professional position of researchers.

Researchers are typically employed by academic institutions of higher education (colleges, universities) and institutions outside the public academic system (NGOs, private institutes, think-tanks), except for Hungary and the Russian Federation where most researchers are employed by institutes affiliated with academies of sciences and arts. We found that, as opposed to in the countries under comparison, the position of researchers in Slovenia is not managed and organised in a systematic way and is outlined very unclearly in terms of academic classification. The reports by the experts indicate differences in the employment status of teachers and researchers; however, these differences are not attributable to the problems of academic classification but to the different weights accorded to both profession types and work areas within the profession.

Among all examples under study, research activities are more highly valued than teaching in terms of both prestige and income only in Austria and the Russian Federation, and to some extent also in the UK. The career expectations of non-researching teachers in the UK are evidently limited. An expert from Austria reports that the trend of placing overall importance on the evaluation of research outcomes is already having a negative impact on teaching. In terms of a profession, teaching is positioned better in the other countries. Teaching posts are more secure and bring a better income, especially in the Flemish part of Belgium. In this sense, the situation is comparable to the situation in Slovenia. Experts from Cyprus, Finland, Germany, Latvia and Spain report that their universities are dedicating ever fewer resources to research; researchers are subjected to the time limits set out in invitations for projects and tenders 'from the outside', especially in the framework of EU-funded programmes and industry-funded research.

Researchers usually do not enjoy a long-term employment position and are only paid by projects. An expert for Germany reports programmes financed by academic institutions from the government budget as becoming more and more "applied" in nature and increasingly limited by short-term contracts, with fundamental long-term research becoming ever rarer. This may result in a gradual marginalisation of both research and teaching, and the disintegration of research activities in academia. A deteriorating employment situation and reduced career expectations of younger researchers on the job market are the most important comparative characteristics of the countries under study.

CONCLUSION

Our key finding is that the status of researchers in Slovenia (particularly those of a younger age and SRA-funded), and in other European countries, is deteriorat-

ing dramatically. The security and stability of their employment, the institutional and organisational structure of the domain, the principles of validating scientific results and funding policy represent the main developmental threats.

In a certain sense, the nature of this profession is undergoing increased *precarisation*, in some aspects, drawing close to professions with lower levels of workforce education in the service industries. The decline of researchers' professionalism is associated with the weakening of multiple areas: freedom and autonomy, work atmosphere, loyalty to one's colleagues, work ethics, and work satisfaction. However, such positively rated elements are increasingly negatively influenced 'from below' by elements 'from above', especially employment security, a relative employment permanence and job stability. These elements are gradually and inevitably leading to the erosion of professional integrity. Such a regression of one's capability to retain control over one's work (organisation, modes and content of work) represents a serious decline in professional autonomy.

A significant, mostly negative, element 'from above' is represented by the reduction of public finances which generates an unsuitable societal (as well as market) valuation and quantitative institutional evaluation of researchers' work. This is leading to work utilitarianism and unproductive competitiveness on the level of a particular research group or working collective at large, and the profession in general. Only a smaller share of the respondents believes that the trends of the deprofessionalisation of their profession should be understood (and therefore accepted) as a component of the flexibilisation of the work processes of the modern market economy – therefore, one should strive towards inclusivity, i.e. inter- and intra-professional linking, thereby contributing to the demythologisation of the 'knowledge professions'.

The scientific structure, the internal organisation of science, and the production of outcomes is incompatible with the growing needs for instant usefulness and applicability, as understood by the political class – this notion is reflected in specific policies and principles of financial funding and budgetary planning. Any wider social understanding and recognition is low also due to researchers having to focus on meeting the high formal criteria of success, e.g. *publish or perish* and the growing 'citocracy'. This prevents any parallel popularisation and modes of disseminating research results by way of publication and presentation in the context of a more general interest – educational and otherwise.

The other level of observation that is highly dependent on the ways of social acceptance (institutionalisation) is reflected in the intra-institutional academic organisation of teaching and research. Lump-sum funding of academic institutions and dwindling budgetary funds for research purposes prevent efficient policy for the planning of scientific production. The state's expectations in the

direction of the self-financing of the research sphere by international and market projects is driving the management of research institutions to strongly reduce their research potential. Namely, university educational resources are predominantly being channelled into teaching or teaching-related activities. Thus, the position of teachers in Slovenia is becoming disproportionately stronger and safer, and university teaching as an academic activity is taking on a disproportionately dominant position in the academic enterprise. The position of researchers, on the other hand, is implicitly valued only as residual. Therefore, there is the danger of the complete marginalisation and, consequently, deprofessionalisation of the research profession in academic institutions.

In our observations we found that deprofessionalisation is characterised by the personality type and characteristics of researchers who have to react to the changing, notably aggravating conditions in the evaluation of their work 'from the outside', especially on the part of the Slovenian Research Agency and those involved in invitations for projects or tenders in the EU. The quantification of the national evaluation of results for the purposes of evaluating a professional qualification creates, to a smaller or bigger extent, a conforming and calculating self-interested type of researcher who is mostly concentrated on the formal aspect of survival in the profession, which runs counter to the expected principal characteristics of a scientist. The same applies to vying

for EU-sponsored research where chief importance is attributed to following the strict formal criteria of report writing along with the related extensive paperwork and much less to the professional (scientific) quality of the outcome.

The main reason cited by the researchers is the shrinkage of state-controlled and other public budgetary resources. Such trend impedes the creation of new jobs, with the only jobs available being short-term in nature and unstable. This has not been found only in Slovenia but also in other countries under observation. Some experts, especially in Mexico and Spain, report trends of the non-meritocratic cementing of job positions and preserving of advantages secured in the past, including the extending of job contracts after formal retirement. Similar arguments were observed in Slovenia. However, we underline that this preliminary comparative analysis may only serve by way of exemplification; more experts from various additional countries would need to be included in the study for the purposes of allowing a better international generalisation.

The deprofessionalisation of researchers in Slovenia and other countries not only concerns those who work in this area. The degradation of (public) research by being transferred to another commercial sector regulated by various state rules means the end of research professionalism and its spirit.

SPREMENJEN KONTEKST DELA AKADEMskih RAZISKOVALCEV

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POVZETEK

Glavni namen članka je raziskati spremembe organizacije dela akademskih raziskovalcev, ki jih obravnavamo kot specifični vidik dolgoročnih družbenih sprememb in so se pojavile vzporedno s procesi globalizacije ter več let trajajoče gospodarske krize. Članek najprej predstavi klasični ter sodobni pregled socioloških teorij profesij v perspektivi splošnega trenda poklicne deprofesionalizacije in paradigmatškega premika od poklicne k organizacijski profesionalizaciji. Spremembe se še posebej dogajajo na osebni ravni uporabe profesionalnega znanja, poklicne identitete, etike, vrednot, avtonomije kot tudi na ravni poklicnih skupin in njihove institucionalne in pravne ureditve. Poklic raziskovalca, katerega ključna značilnost sta oblikovanje in produkcija znanja, se zaenkrat še vedno

pomembno razlikuje od večine ostalih poklicev, ki znanje le uporabljajo ali širijo. Na podlagi teoretskega pregleda so v članku s kombinacijo statistične analize in kvalitativnega raziskovanja, predstavljene ugotovitve in predpostavke o spremenjenem kontekstu dela raziskovalcev na univerzah. Analiza je vključevala sintezo statističnih podatkov o zaposlitvah raziskovalcev v Sloveniji od leta 2008 naprej, interpretacijo rezultatov vzorca dvajsetih pol-strukturiranih intervjujev v Sloveniji ter ekspertno evalvacijo teh rezultatov s strani ekspertov iz deset evropskih držav. Temeljna ugotovitev članka je, da se sistemska organiziranost raziskovalnega dela in poklicni ter karierni položaj raziskovalcev dramatično in hitro poslabšuje. Slovenski raziskovalci so soočeni z različnimi okoliščinami in pritiski, ki vodijo v deprofesionalizacijo njihovega z naraščajočim omejevanjem javnega financiranja, višjo nezaposlenostjo in delno zaposlenostjo, kratkotrajnimi delovnimi pogodbami, neproduktivno tekmovalnostjo znotraj in med raziskovalnimi skupinami, nepetostjo ali pomanjkljivim vključevanjem v pedagoški proces, nujnostjo osredotočenja na izrazito formalne kriterije kariernega napredovanja in novejšim pojavom birokratskega podjetništva.

Ključne besede: profesionalizacija, akademsko raziskovanje, prekerno delo, gospodarska kriza

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