THE EUROPE OF KNOWLEDGE AND DOCTORAL EDUCATION

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At the root of the Bologna Process there is a major policy driver promoting the interaction between education and innovation; this is discursively associated in the EU policy rhetoric with the idea of the 'knowledge society'. In 1997, the European Commission put forward the notion of a Europe of Knowledge. Its Agenda for 2000 was "to make 'knowledge-based policies' (innovation, research, education, training) one of the four fundamental pillars of the EU's internal policies [and] to raise the level of knowledge and skills of all Europe's citizens in order to promote employment" (European Commission, 1997). In 2003, knowledge policy concerned the need to develop effective and closer cooperation between universities and industry 'gearing it more effectively towards innovation, new business start-ups and, more generally, the transfer and dissemination of knowledge' (European Commission, 2003). The European Commission made clear its commitment to promote (higher) education, research and innovation in the creation of a 'Europe of Knowledge' targeted by the Lisbon agenda (European Commission, 1997). In 2005, ministers stated that 'As higher education is situated at the crossroads of research, education and innovation, it is also the key to Europe's competitiveness' (Bergen communiqué, 2005). The Lisbon agenda assumed that 'modernisation [was] needed in order to face the challenges of globalisation and to develop the skills and capacity of the European workforce to be innovative' (European Commission 2007: 1); it further pointed out three areas of 'possible reform' in higher education: curriculum, governance and funding. This was expected to have major consequences for a variety of doctoral programmes; the third cycle was framed to promote 'the status, career prospects and funding for early stage researchers' as 'essential preconditions for meeting Europe's objectives of strengthening research capacity and improving the quality and competitiveness of European higher education' (London communiqué, 2009).

As Zgaga (2014) previously explained in this series of Notes, doctoral education first became a European priority at the Ministerial Meeting of the Bologna Process in Berlin (Berlin communiqué, 2003). In this communiqué, doctoral studies featured at the intersection of the European Higher Education Area (EHEA) and the European Research Area (ERA). Doctoral studies were framed in line with the priorities of the Lisbon Declaration and the narrative of the 'knowledge society'. Doctoral degrees were to be more closely linked with careers in Research and Development, and joint doctorates were to be implemented more easily once obstacles to the mutual recognition of degrees across countries were removed. These adaptations responded to the curricular reforms triggered by the European Commission's recommendations (European Commission, 2007). This European discourse has since influenced university dynamics, and the concept and design of doctoral education. Guidance has been issued on the recruitment of researchers, as well as their employment and working conditions. This new approach to doctoral training, research and careers was designed to include 'wider employment-related skills, the structuring of training, the quality of supervision and the funding of doctoral programmes and candidates' (Jamieson and Naidoo, 2006: 3).

The European University Association (EUA) also considered that doctoral programmes were 'a crucial source of a new generation of researchers and serve[d] as the main bridge between the European Higher Education and Research Areas' (Reichert and Tauch, 2005: 7). While agreeing that doctoral programmes had become an important part of EU strategies and the Bologna Process, the EUA also recognised that 'the reforms of doctoral education [were] proceeding at varied paces' (Reichert and Tauch, 2005). The Lisbon agenda objectives, the EC research policies and the Bologna Process had impacts on the development of the doctorate (called the third cycle after the bachelor's and master's 'cycles'), either by inducing clear adaptive changes to the structure of the doctorate (e.g. Portugal) or by accelerating the reform processes (e.g. France, Germany). In fact, 'the organisation of doctoral programmes displays a large diversity not only across different countries in Europe, but also across universities within the same country and across faculties within the same university' (Reichert and Tauch, 2005: 12). Not only do countries have diverse legal frameworks and regulations, but individual universities also have a great deal of autonomy in managing their own doctoral programmes. This diversity of doctorates, however, is used in many cases, at least at discursive level, as an opportunity to develop European convergence efforts. Common and clear guidelines and regulations with regard to access, supervision and evaluation are expected to enhance the transparency and comparability of degrees, and thus create a more compatible and homogenous European space for doctoral education.

EU policy drivers and doctoral education

Since the Ministerial meeting in Bergen, the Bologna Process has been expected to enhance the relationship between higher education and research which, in turn, underpins 'higher education for the economic and cultural development of our societies and for social cohesion' (Bergen communiqué, 2005). The particular relationship being established between research and innovation is key to shaping the discourses that frame innovation as the main political driver for economic growth (European Commission, 2010). The importance assigned to innovation by the EU is evident in the 2020 strategy: 'EU public policies should focus on creating an environment that promotes innovation […]. By improving conditions and access to finance for research and innovation in Europe, we can ensure that innovative ideas can be turned into products and services that create growth and jobs' (Bucharest communiqué, 2012). EU ministers of education recognised the need to improve 'cooperation between employers, students and higher education institutions, especially in the development of study programmes that help increase the innovation, entrepreneurial and research potential of graduates' (Bucharest communiqué, 2012).

The hegemony of 'innovation' in the EU discourse and its particular articulation alongside research and education configure the landscape of doctoral education. While consolidating the role of the European Commission as a supranational governing body, the European governance system, also contributes to the 'coordination of coordination' (Dale, 2007) by legitimising national discourses and decisions on higher education issues.

Since 2005, the European Commission's actions in the field of research have intensified (Keeling, 2006). The European Commission doubled the funds for research (7th Framework Programme), thus reaffirming its leading role in the field. This framework reinforced discourses about the shift from basic to applied research, emphasising the shift from Mode 1 to Mode 2 knowledge production (Gibbons et al. 1997). Furthermore, by focusing on transferability, innovation has increasingly blurred the distinction between research and its applicability. The underlying assumption is that research brings about 'add[ed] value to markets, governments and society' (European Commission, 2010). The emphasis shifts from research per se to research and innovation as mediated by knowledge transfer; under the framework of the Bologna Process, 'study programmes must reflect changing research priorities and emerging disciplines, and research should underpin teaching and learning' (Bucharest communiqué, 2012).

Innovation as a policy driver for doctoral education

The articulation of research with innovation is based on the presupposition that 'Europe has world-class researchers, entrepreneurs and companies' and that 'Europe's research and innovation performance needs to be boosted to master the many challenges ahead and keep its place in a fast changing world' (European Commission, 2010). From the perspective of the European Commission, the four things that enable innovation are: human resources, open and excellent research systems, finance and support. Human resources development is linked to the 'importance of research and research training and the promotion of interdisciplinarity in maintaining and improving the quality of higher education and in enhancing the competitiveness of European higher education more generally' (Berlin communiqué, 2003). By developing a European Qualifications Framework for doctoral education/training and setting up a number of quality standards for doctoral degrees, with impact on curricular reforms, the EU has emphasised the kind of quality that can be measured..

The emphasis on innovation conveys a mandate for education systems to develop a particular mix of skills (European Commission 2010 and OECD Innovation Policy Platform). The report by the Expert Group on New Skills for New Jobs prepared for the European Commission in 2010 emphasises that education and training 'must be underpinned by transversal competences, especially digital and entrepreneurial competences, in order to both encourage initiative rather than simple reproduction of received knowledge and to better adapt to learners' and employers' needs' (European Commission 2010: 7). The Innovation Policy Platform (IPP), developed by the OECD and the World Bank, underlines the need 'to rebalance the emphasis between content knowledge and other skills such as creativity, communication, teamwork […].' According these organisations, the acquisition of innovation skills is based on (i) disciplines that are expected to equip students with skills that matter for innovation: technical skills, thinking skills, creativity, behavioural and social skills; (ii) pedagogies that must be active and based on problem-based learning, cooperative learning, meta-cognitive learning. They must sometimes be enhanced by information and communication technology and by interdisciplinary approaches focusing on design thinking to foster skills for innovation; (iii) new assessment instruments focusing on competences rather than knowledge; and (iv) international mobility of students, faculty, programmes and institutions, which is introduced as a means to foster skills for innovation in a globalised economy.

Governance reforms as policy drivers for doctoral education

Public administration and management modernisation reforms impinging on higher education governance reforms started in the mid-1980s. When looking at doctoral education one can see that they had different timelines, developments and outcomes. In some countries, doctoral education reforms began before the Bologna process (e.g. Norway) and even outside its sphere of influence (e.g. the UK). The governance reforms of the Bologna Process and the Europe of Knowledge acted as catalysts for reforms in doctoral education and accelerated the

change. The European instruments for political coordination that have been introduced at national levels have also led to the establishment of external quality assurance mechanisms and associated funding. Universities, in turn, have strategically used this governance re-scaling to pursue their own objectives and take advantage of the room for manoeuver provided by this double (and in countries with strong political and administrative regions, triple) political framework.

The discourse about the 'Europe of Knowledge' got woven into national reforms which then further shaped doctoral education. For instance, in France, the Bologna Process has favoured the institutionalisation of research in universities. Prior to this, the bulk of research training and innovation in France had been done in smaller organisations like the CNRS, INRA, or INSERM – not in universities. Since the contractual policy initiated in 1983, universities have shown an increasing interest in promoting and establishing research structures inside universities. Doctoral schools contributed to the institutionalisation of research in universities and, since 2006, the Pacte Pour la Recherche has strengthened this trend. Furthermore, doctoral schools are now acknowledged as the locus of 'vocational experience in research' (Musselin & Paradeise, 2009: 43). As universities became more specialised, they also became more differentiated according to disciplines (Musselin & Paradeise 2009: 42). In Norway, knowledge policies have been most noticeable in the area of national research policy. The 'new' doctoral degrees (i.e. the structured doctoral programmes) have been evolving within the framework of the higher education reforms prior to the Quality Reform and the Bologna Process. The new organisation of doctoral programmes and the structuring of doctoral education in general could be seen as part of wider national efforts to make doctoral programmes more efficient and predictable (Bleiklie, 2009). Institutions now assume greater responsibility for the outcomes generated by graduate programmes, as 'the number of doctorates earned each year has become an important performance indicator, rewarded financially since 1990' (Bleiklie 2009:149). In turn, in the United Kingdom, doctoral education reforms developed without being directly involved in the European process (Kehm 2009). Since the 1990s a utilitarian view of research policy has been emerging, by promoting close connections between science/universities and industry. The political promotion of 'big science' was also crucial; this was done by promoting inter-institutional cooperation to create critical mass across clusters of universities and across particular subjects.