The Politicization of the PhD and the Employability of Doctoral Graduates: An Australian Case Study in a Global Context

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The Rise of the Politicized PhD

Since the late 1990s, a confluence of factors has directed unprecedented political attention globally toward doctoral education and the service-ability of the PhD to economic, specifically—knowledge economy—imperatives (Enders 2002; Nerad 2009; Siganos 2009; Go8 2013). We refer to this phenomenon of concerted policy focus on—and sometimes, political intervention into—PhD education as the politicization of the PhD. A key driver of this politicization has been the rise to prominence, and the global reach, of knowledge economy (KE) discourses traceable to, among other things, the influence of several key publications by global policy agents, the OECD (1996) and the World Bank (1999 and 2000).

One consequence of the dominance of KE discourses has been the reframing of HE as a key constituent of National Innovation Systems (NIS) with significant consequences for understandings of the role of the PhD. The PhD has been given new political prominence as it has been reconceptualized as primarily or optimally serving the economic and innovation agenda. Earlier understandings of the PhD as primarily the nursery for the future academy, and the site at which disciplinary knowledge is both preserved and advanced, still exert some influence. The 2006 publication arising from the Carnegie Institute’s project Re-envisioning the PhD (Golde and Walker 2006) frames the doctoral endeavor in traditional terms as the production of “stewards of the disciplines,” albeit canvassing ways in which the traditional PhD may be renovated. However, this view is under intensifying pressure from global policy regimes and government funding agencies that seek to garner greater economic advantage from investment in PhD education and drive closer alignment between PhD education and the needs of end-users of doctoral graduates as is discussed in this chapter with reference to the Australian political context.

Where the PhD is framed primarily as a scholarly and disciplinary enterprise, aligned with Mode 1 knowledge production (Gibbons et al. 1994), it is appropriate that it is managed entirely within the academy. Where it is seen as a vital component of the NIS and engaged in Mode 2 knowledge production (ibid.), it is inevitable that it will be subject to increasing intervention from the political sphere and subject to political masters (Enders 2002). Thus, in the period under examination, we can observe the PhD under increased political scrutiny and influence, particularly on the question of its relevance to the
economy, the degree to which it is delivering “impact” or innovation (as distinct from or in addition to producing new disciplinary knowledge), the skills sets of its graduates, and its direct engagement with industry and industry problems. The intersection of KE discourses and earlier, more scholarly conceptions of the PhD thus serves as a pivot point on which the contradictory debate on PhD graduate employability turns from claims of the over-production of PhDs (where employment in the academy is seen as the best outcome of PhD graduation) to claims that there are too few PhDs—or perhaps too few graduates with the right skills sets—to meet the needs of the knowledge economy.

Survey of the Global Politics of the PhD

A scan of the global scene provides ample evidence of the phenomenon of the politicization of the PhD and its implications for understanding its value and the contribution to be made by PhD graduates. In Europe, the repositioning of higher education (HE) within KE imperatives is manifest in the emergence of the European Higher Education Area and, as both an expression and lead enabler of this, the Bologna process of concerted reform, harmonization, and development of HE institutions and their programs. The inclusion of the PhD within the Bologna framework in 2003, the initiation by the European University Association (EUA) of a series of large projects on the doctorate (EUA-CDE n.d.), the establishment in 2008 of the Committee on Doctoral Education (CDE) of the EUA, are all expressions of the political importance of doctoral education to the regional aspirations of Europe, and the national systems within the European region, with respect to global competitiveness through innovation. For Europe, the PhD is central to achieving the “ambitious objectives concerning enhanced research capacity, innovation, and economic growth” (EUA-CDE n.d). In both continental Europe and the UK, the reframing of doctoral education explicitly within a KE framework has led to developments in doctoral curricula, form, and mode of delivery. These include Doctoral Training Centers, which are closely aligned to industry in the United Kingdom (UK) and the Industrial PhD in some Scandinavian countries designed to bring closer alignment between doctoral education and industry needs (Borrell-Damian 2009).

It is not only in advanced economies that knowledge economy optimism (Cuthbert and Molla 2014) has directed political attention toward the PhD. This process is also evident in developing countries across Africa, Latin America, and Asia. While this chapter does not offer scope to explore these developments in detail, they can be registered briefly through reference to initiatives in sub-Saharan Africa through the Commission of African Union (AU 2010), the African Development Bank (AfDB 2008), the EUA’s Cooperation on Doctoral Education between Africa, Asia (CODOC) Project (Jørgensen 2012), and the International Association of Universities’ project on Innovative Approaches to Doctoral Education in Africa (IDEA-PhD). Likewise in the Asia-Pacific region, as outlined in the survey of the increased emphasis on research and innovation provided by Tran et al. (2014, 187), national governments including those in Korea, Malaysia, Indonesia, Vietnam, and
the Philippines have embarked on ambitions plans for targeted growth in doctoral graduates.

The driver behind this concerted political interest in the PhD are KE aspirations. As a recent OECD report shows, doctoral graduates are considered key players in knowledge production, dissemination, and application (Auriol, Schaaper, and Felix 2012). Thus, the capacities of a nation or a region to compete effectively in the knowledge—and innovation-driven global economy are predicated on generating a critical mass of highly skilled graduates. For example, between 1998 and 2006, the average annual growth rate of doctorate degrees was 40 percent in China, 17.1 percent in Mexico, and 8.5 percent in India (Cyranoski et al. 2011). Around the globe, national governments and regional coalitions appear to be following the same script: Zimbabwe now requires every university lecturer to be PhD qualified by 2015; Malaysia has a target of 60,000 PhD graduates by 2023; the European Union is working to create one million new research jobs by 2020; and India is hoping to graduate up to 20,000 PhDs a year by 2020 (data from Go8 2013, 9).

Too Many PhDs Or Not Enough? The Debate on Doctoral Graduate Employability

Tensions between established scholarly and emerging political understandings of the PhD have significant implications for its management and for the ways in which the employment outcomes of PhD graduates are viewed. Prevalent particularly in the US are arguments that doing a PhD is a waste of time as labor market returns to the individual are insufficient. For example, data from the US in 2008 show that over 27,000 PhD holders were working as retail salespersons (Vedder 2011). In an article in a special issue of Nature, Cyranoski et al. (2011) asked if it was time to stop producing more PhDs, as the supply of doctoral graduates had exceeded the demand in the labor market.

The “too many PhDs” thesis frames the oversupply of (relatively useless) doctoral graduates as the main dimension of the graduate problem. The problem of oversupply of doctoral graduates is closely related to the widening gap between educational supply and occupational demand, but is also increasingly related to concerns that doctoral graduates lack requisite transferable skills. A report in The Economist (2010) diagnoses the employment crisis facing many PhD graduates as the combination of declining demand (or opportunities) in academia, and graduates’ lack of generic skills required for jobs in the broader economic sector (see Harman 2002; Nerad 2009). There is a widely shared view that PhD training is too theoretical in orientation and too narrow in scope (Nerad 2009) and this emerges strongly in the policy discourses in Australia, discussed below.

However, the oversupply “problem” is an ambiguous construction. Commonly, this argument draws on largely unexamined assumptions about where PhDs are best employed—with some prejudicial views that a PhD not employed in academia is necessarily underemployed. Prejudice also comes from those employers in industry and business who see the PhD as too “academic” to be useful for “real world” jobs. The oversupply argument also tends to ignore the high employability of doctoral graduates in non-academic areas. At present, over 50 percent of doctoral graduates in the advanced
economies find jobs outside academia—in industry, government, and the nonprofit sector (Borrell-Damian 2009). The oversupply thesis is at odds with knowledge economy imperatives, which demand more highly skilled workers than ever before:

Participation in the knowledge economy requires a new set of human skills. People need higher qualifications and [the capacity for] greater intellectual independence [...] Without improved human capital, countries will inevitably fall behind and experience intellectual and economic marginalization and isolation. (World Bank 2000, 22)

The Politicization of the Australian PhD

This discussion of the politics of the PhD in Australia arises from a larger piece of research which has identified more than 30 significant policy statements, reports, and initiatives dealing directly or indirectly with doctoral education, issued by a range of policy agents including the Federal government and HE and industry peak bodies between 1998 and 2014. Reporting on preliminary findings from this research elsewhere (Cuthbert and Molla 2014), we argue that heightened political concern with the Australian PhD emerged first in the mid to late 1990s, was focused initially on efficiency concerns, and led to policy interventions by John Howard’s Liberal-Coalition government (1996–2007) aimed at increasing PhD degree completion rates. The policy White Paper, Knowledge and Innovation (Kemp 1999) is, as the title indicates, infused with KE rhetoric and emphatically signals the need for university research and research training to be better aligned with the broader economy.

In effect, however, Kemp’s major policy intervention, the Research Training Scheme (2001), was shaped more by the principles of neo-liberal accountability focused on efficiency and returns on public investment than by KE imperatives, despite the clear influence of the latter discourse. The issues of how better to align research training with the needs of industry and how to assist the development of more “entrepreneurial” (Kemp 1999) dispositions in PhD graduates were not directly addressed by the RTS funding mechanism. This is not to deny the effectiveness of successful but largely niche solutions to this alignment challenge, including the introduction of Co-operative Research Centers (CRCs), a 1991 initiative of the Hawke-Keating Labor government (1983–1996). As reported by Palmer (2012) and others (DIISR 2008), CRCs readily developed significant research training missions and admirable track records in producing PhD graduates with strong industry orientation. Further discrete solutions to the challenge of aligning university research and research training with industry are the Australian Research Council’s Linkage Scheme and the Australian Postgraduate Awards (Industry) (APAI) introduced by Kemp, which funded university researchers including PhD students to engage in research on “industry problems.” The challenge of securing greater alignment between the PhD and the economy awaited the arrival of Kim Carr, who developed an ambitious program of policy development during the turbulent brief tenure of the Rudd-Gillard-Rudd Labor
governments (2007–2013). In the next section, we examine the Carr initiatives in more detail.

Making the Australian PhD Accountable to the Demands of the Knowledge and Innovation Economy

Kim Carr assumed ministerial leadership of the newly formed portfolio of Industry, Innovation, Science and Research (DIISR) in the first cabinet of Kevin Rudd (2008–2010), and held the position until late 2011, through cabinet reshuffles, Rudd’s ousting as Prime Minister by Julia Gillard, and a general election in 2010. Carr inherited a HE system that had been restructured by John Dawkins in the early 1990s to deliver both greater access and expanded capacities for research (Larkins and Croucher 2013) and whose research and research training capacities had been further sharpened by David Kemp’s post-1996 reforms.

Growth in the system was dramatic. The period between 2000 and 2010 saw a 68 percent increase in the number of PhD enrollments (excluding other doctorates) in Australian universities, from 27,966 candidates to 47,066. Degree completions also grew from 3,793 per year to over 6,000 in the same period (Dobson 2012; Go8 2013). However, the issues of alignment remained largely unaddressed.

The political focus on PhD education in Australia markedly intensified in the years of Kim Carr’s ministerial oversight of innovation industry, science, and research. Kemp is credited and criticized (HRSCISI 2008, Submission 77) for shifting earlier understandings of the PhD process from traditional educational, disciplinary, and scholarly moorings into the more systematic and the functional, even instrumental, framework of research training. Carr’s emergent policy framework fundamentally reconceptualized the PhD and doctoral education as central considerations in national research labor force planning. Notably, Carr’s portfolio saw the research functions of the university sector separated from its educational functions, with the latter falling within a mega-portfolio of Education and Workplace Relations (DEWR) presided over by Deputy Prime Minister Julia Gillard in the first Rudd cabinet. Carr’s portfolio aligned research with science, industry, and innovation.

Moving with dizzying pace, the Rudd government presided over several major inquiries into HE, research, and innovation, which delivered findings within a year of its election. In March 2008, Gillard established a major view of Higher Education chaired by Denise Bradley. In addition, Carr commissioned Terry Cutler and associates to undertake a review of the NIS (Cutler 2008); and, simultaneously, on referral from Carr, the House of Representatives Standing Committee on Industry, Science, and Innovation undertook a finely grained inquiry into research training in Australian universities and research workforce issues (HRSCISI 2008). The picture that emerged from these reviews was of an HE system that, while “punching above its weight” on certain measures, was not producing research and researchers at the rate required by either the HE system or the economy at large:
While the scale of our research workforce is small by global standards, in line with the relative size of our population, we possess an above the OECD average number of researchers for every thousand people in our workforce and a relatively strong rate of HDR completions as a proportion of our overall population. Available metrics furthermore suggest that our research workforce is very productive, publishing at a rate within the top ten for OECD countries, and punching above its weight in a number of fields, such as molecular biology and genetics and immunology. (DIISR 2011b, xi).

The NIS was shown to be facing profound challenges. The research labor force pipeline was too narrow, failing to attract sufficient numbers of talented students for several reasons, including a failure to promote science, technology, research careers to students, lack of success in recruiting sufficient numbers of school-aged students to persist with mathematics and basic science, and inadequate levels of financial support for PhD candidates under the Commonwealth’s Australian Postgraduate Award (APA) scheme. In addition to its narrowness, the research and innovation labor force pipeline leaked. Too many researchers abandoned research before completing their degrees or post-graduation. Too many of those who chose to remain in research left Australia for more attractive working conditions in the United States, the United Kingdom, and Europe. Further, repressive visa conditions forced large numbers of PhD-qualified international students to leave Australia before having the opportunity to convert their research into publications or applied outcomes.

A series of measures to address some of these capacity-and-pipeline issues was adopted immediately. In successive Federal budgets in 2008 and 2009, both the numbers and value of research scholarships for PhD candidates were increased, bringing their level of remuneration above the poverty line. On behalf of the government, the Australian Research Council developed various schemes to caulk some leaks in the researcher pipeline. Discovery Early Career Researcher Awards (DECRA) offered a variant of the ARC’s flagship Discovery Awards specifically for early career researchers, while the Future Fellowship Scheme aimed to attract high-profile mid-career researchers, including those who had left Australia for greener research pastures overseas. A review undertaken by Michael Knight recommended significant liberalization of the visa conditions for international postgraduate research students that would allow them to remain in the country beyond the completion of their degrees to work on publications, research translation, and associated activities (2011). Knight’s recommendations were adopted by the government.

Fuelled by the findings of the three major inquiries reporting in 2008, Carr embarked on a series of research labor force initiatives in the years 2009–2011. These included commissioning a report on the labor force needs of Australian research end users, with end users broadly conceived (Allen Consulting Group 2011). Further research was commissioned from the Council of Australian Postgraduate Associations (CAPA 2009) into the research training experiences of Australian research candidates, and the Australian Council of Educational Research (ACER) was contracted to investigate and report on the profile, characteristics, and career intentions of current Australian PhD candidates (Edwards, Bexley, and Richardson 2009).

To this point, knowledge about the post-graduation outcomes of PhD holders in Australia had been a relatively neglected area of research. With the exception of the annual snapshots
of graduate destinations taken about six months after graduation by the Graduate Careers Council of Australia (e.g., Graduate Careers Australia, 2010–2013) very little was known about where PhD graduates went beyond first destinations and how they fared. Some greater understanding was gained from the findings reported by Boreham et al. (2007) on the five to seven year post-graduation outcomes of Group of Eight PhD graduates. However, this study, modeled on work undertaken in the US by Maresi Nerad and associates (e.g., Nerad et al. 2007), did not address employer views and was restricted to the graduates of the top eight universities who, though the largest proportion of all PhD graduates, are not representative of PhD graduates as a whole on several measures.

Carr’s work on the research labor force culminated in a major policy statement Research Skills for an Innovative Future: A Research Workforce Strategy to cover the decade to 2020 and Beyond (DIISR 2011b). In addition to the capacity and pipeline issues on which some action was taken in 2008 and 2009, the statement synthesized findings from the variety of research, review, and policy development activities either undertaken by the government or commissioned by it and released between 2008 and 2011 and proposed policy solutions. Chapter 4 of the document dealt directly with doctoral education.

Many of the problems facing research education in Australian HE had been known and documented back at least to the time of David Kemp in the late 1990s. They included the usual suspects of inadequate funding and resources, especially the mismatch between the length of PhD candidature (four years) and the duration of Australian Postgraduate Awards (three and a half years), and graduate students’ access to facilities even at the basic level of workstations and computers. They also included the more intractable cultural issues such as the poor supervision, inadequate induction into research communities, and less than supportive research climates experienced by some candidates. It is beyond the scope of this chapter to discuss the proposed policy solutions to all these issues, so the remainder of this discussion will be directed to the reported employability and innovation skills deficit in Australian PhD graduates and the proposed changes to doctoral curriculum to incorporate explicit employability and commercialization skills components.

Neither Too Many nor Too Few: The Need for a Different Kind of PhD

The position articulated in Research Skills for an Innovative Future is that Australian universities needed to produce not only more PhD graduates, but graduates with different skills sets and orientations:

A growing body of evidence suggests that our researchers and recent higher degree by research graduates lack core competencies required in the modern workplace [...] communication, teamwork and planning, and organizational skills are key “soft-skill” areas in need of improvement [and] researcher knowledge gaps in areas important to the utility and effectiveness of research staff in a business context, including business
and financial management skills, commercial acumen, commercialization skills, and intellectual property management, among others. (DIISR 2011b, 21)

Thus, among a series of other policy recommendations designed to increase the volume of research qualified workers and enhance their skills sets, the government called for “new models for research training that explicitly focus on the professional employment needs of graduates” (DIISR 2011b, 25). Noting the success of the CRC model of university-industry partnered research and research training, the government flagged its intention to extend this model with funding for more CRCs and the development of other models such as Collaborative Research Training Networks. However, it was asserted that such programs, while effective, would not be sufficient, pointing to the need for labor market and researcher end user needs to be systemically embedded more generally into PhD programs. To achieve system-wide provision of generic employability skills training and specific training in research commercialization, the government indicated that it was considering the mandating of such provision and/or tying eligibility to receive funding from the two Commonwealth research scholarship schemes—the Australian Postgraduate Awards (APA) and the International Postgraduate Research Scholarships (IPRS)—to capacity to provide this training to scholarship awardees (DIISR 2011b, 25). In 2011, Carr also announced a review of the RTS under the policy mantle of Quality in Research Training (DIISR 2011a), but did not survive as minister under Julia Gillard’s Prime Ministership to prosecute this review.

Unsurprisingly, given the funding implications, the HE sector responded, almost with one voice, to the government’s call for some remodeling of PhD programs. In 2013, Universities Australia (UA), representing all Australian universities (UA 2013), and the Group of Eight (Go8 2013), a consortium of the eight top research-intensive universities, published position papers that signaled broad consensus with the government’s position. For the Group of Eight, the changing employment patterns of PhD graduates—with higher numbers being employed in sectors beyond HE—obligated Australian doctoral providers to rethink doctoral curricula to address a wider set of employability skills. PhD programs, it was argued, should include curricula that address “more explicit” skills development (2013, 40). Similarly, Universities Australia emphasized the importance of ensuring responsiveness to national priorities by training “graduates for employment in the broader economy” (UA 2013, 4). Further, as reported in greater detail elsewhere (Cuthbert and Molla 2014), several universities—including Monash University in Melbourne, the University of Queensland, and the five universities in the Australian Technology Network (the University of Technology Sydney, RMIT University, Curtin University, Queensland University of Technology, and the University of South Australia)—implemented curriculum changes in 2012 and 2013 to address the government’s pro-skills agenda.

With a change of government in 2013; the dismantling of the portfolio of Innovation, Industry, Science, and Research; and the reintegration of university research functions with education functions in a new Department of Education, the future of Carr-devised policy surrounding research and research training in Australia is presently unclear. This lack of clarity is exacerbated by the announcement in the 2014 Commonwealth Budget, the first from Tony Abbott’s new Liberal-Coalition government, that the Research Training Scheme
was targeted for cuts of 10 percent of total funding, a shortfall against which universities might insulate themselves by charging partial tuition fees for local (Australian and New Zealand) candidates. At the time of writing, the fate of this budget proposal in the Australian Senate is pending. If successful, these budget cuts and the prospect of fees for Australian PhD candidates will signal a significant shift in Australian public policy on the PhD. For most of its 66-year history, the Australian PhD has been defined politically as bringing public benefits over and above its benefits to individual graduates and funded from the public purse (Poole-Warren et al. 2014).

Some Reflections by Way of Conclusion

Policy debates on the PhD in Australia confirm Enders’ assessment that the contemporary PhD must serve many masters. The politicization of the PhD is an almost inevitable consequence of the heightened emphasis placed on research and innovation and the research-skilled labor force required to drive these in national and regional political systems, which are now aligned with or in the process of aligning themselves to KE imperatives.

Some elements of the Australian policy debate, however, require critical reflection and these reflections may have application to other systems in which similar debates are now playing out. By way of conclusion, we raise three points that would benefit from further reflection, further research, or the fuller integration of existing research. We raise these points not because we are averse to change or improvement in PhD curricula or modes of delivery, but out of concern that changes to PhD education are undertaken on a sound evidence base.

The first point relates to the Australian PhD cohort. It is well known that the average age of Australian PhD candidates is 37 years and around 45 percent were engaged in full- or part-time employment in the year prior to enrolling. The employability skills deficit model, which assumes that PhD candidates are empty vessels or blank slates (HRSCISI 2008, Submission 77) with no “real world” employment experience, is not universally applicable. As documented in the work of Evans, Evans, and Marsh (2008) a significant proportion of PhD candidates who return to the university as mature professionals do so in order to embark on research that derives from their experiences in a diverse range of employment and professional contexts. These candidates return to the academy specifically for tutelage in the advanced knowledge, skills, and techniques offered by the PhD.

Understanding and doing justice to this particular interface between the university and industry call for more sophisticated conceptualizations than those underpinning the generic employability training dialogue. For example, a conceptualization is needed that allows for the university knowledge base to be transformed by the industry experience of those of its staff and students who come to the academy with advanced industrial, business, and professional knowledge and experience. We also need to better account for the dynamic co-production of advanced knowledge and expertise across multiple sites rather than positing
industry as the “end user” of university expertise while complaining that this expertise does not meet its needs.

The second point on which we may reflect critically is the circular reasoning according to which the fact that the majority of Australian PhD graduates find themselves in employment in labor markets beyond HE is taken *ipso facto* to mean that the PhD must be reformed to accommodate the needs of these other employment sectors. We might just as reasonably argue on this evidence that the PhD is servicing the needs of these sectors for advanced skills in research and analysis. The report produced by the Allen Consulting Group (2011) on the needs of employers of researchers and their perceptions of the deficiency in general skills of PhD graduates is described by its authors as “a small scale study” based on interviews, focus groups, and a survey to which 72 employers responded (Allen Consulting Group 2011, 19). One does not have to search too long to find different views to those reported in this study. For example, several non-academic employers of significant numbers of PhD graduates made written submissions to the House of Representatives 2008 inquiry into research training in Australia (HRSCISI 2008, Submissions 77, 105, 106). These end users are concerned with supply, and their capacity to attract and retain the services of appropriately qualified PhD graduates. Where concerns are expressed with the kind and quality of skills possessed by graduates, these relate to specific scientific skills, techniques, and knowledge, and not to general employability skills, as this comment on the New South Wales Department of Primary Industries, which employs over 300 PhD graduates on its scientific staff, indicates:

> The number of PhD students per academic [supervisor] appears to have risen driven by declining investment in the Australian university system. Close supervision is likely to be a key factor in skills development. Basic research design and analysis skills (including statistical analysis) appear to be weakening with many universities not teaching these at an undergraduate level and providing limited support to PhD students in this area. (HRSCISI 2008, Submission 106)

Thus, for this end user, the reform required is not the addition of new programs in employability and other soft skills, but the provision of adequate funding to universities for the core business of research education. Admittedly, public sector entities would not be expected to share all the concerns of the private sector, but their focus on securing a steady supply of PhD graduates with high quality research skills does highlight the issue of what it might be reasonable to ask of a PhD graduate.

Our third and final point arises directly from the question of how much can realistically be asked of any new graduate, even a graduate with prior employment experience. The framing of the issue of the skills deficit in PhD graduates places the onus for fixing perceived deficits with the universities or, less reasonably, with the graduates themselves (Brown, Hesketh, and Williams 2002). Everyone, it seems, wants a work-ready graduate and the expectations of PhD graduates are set even higher than for other graduates. Very rarely, in the Australian discussion at least, is mention made of the graduate-ready employer: that is, the employer who recognizes the need for comprehensive induction, on the job training, and ongoing professional development to bring even the most highly
skilled graduate up to speed with the demands of the particular work environment. We know that such graduate induction and professional development programs exist; our point here is that their existence and the important role they play has barely registered in the political framing of the Australian PhD graduate employability issue.

The production of a highly skilled workforce comprising PhD and other graduates in a range of industries takes time and formative experiences beyond those provided by universities. The process is surely better understood as one calling on the co-production of several parties, including the graduate/employee who is always an agent in his or her education, skills acquisition, and professional development. Theoretically and in policy terms, we need to move beyond the simplified and unrealistic bifurcation of the university and the economy and toward dynamic and collaborative co-production models that acknowledge and enable the ongoing co-produced, collaborative, and co-operative efforts of educational institutions, graduates, employers, industry, and professional organizations and governments in the crucial endeavor of developing people with knowledge and skills of the highest caliber to tackle the complex problems and enormous opportunities that confront all of us, irrespective of our state of economic development.

We also need patience. When Ian Chubb (HRSCISI 2008, Submission 23) writes that PhD graduates are in high demand and find themselves in positions of influence in government and industry around the world, he didn’t mean that this happens immediately after graduation.

References


