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Is it time to rethink our model of post-secondary education? Progressing a tertiary education eco-system¹

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Is it time to rethink our model of post-secondary education? Progressing a tertiary education eco-system

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Abstract

Near universal participation in higher education has been a huge achievement for OECD countries. Yet, globalization and geopolitical shifts, an ageing population, the technological and digital revolutions leading to increasing use of automation and AI, and strategies for sustainable green and blue economy will continue to reshape our societies, how and where we live and the world of work. What are the implications for our model of educational provision which has remained relatively unchanged as if it was still a system catering to a small elite? Attention is drawn to the other 50% – learners gradually being “left behind” by the current system and/or unable to access the system in any meaningful or sustained way. Much more radical thinking is required as to how we structure, govern, fund, and deliver post-secondary/post-compulsory education. This is driving many countries to reframe the policy discussion around the tertiary education eco-system, inclusive of formal, non-formal, “second-chance” and life-long learning opportunities. But, beyond the headlines what do we mean by tertiary education? What do we want to achieve? This paper begins by reflecting on the concept of systems and raises the idea of a tertiary ecosystem. It then looks at some factors driving the shift to tertiary education and reflects on some international responses.

Keywords: Tertiary, Skills, Learning, Knowledge, Post-secondary, Higher education

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Introduction

Near universal participation in higher education has been a huge achievement for OECD countries. As we look towards the future, globalization and geopolitical shifts, an ageing population, the technological and digital revolutions, and strategies for a sustainable green and blue economy will continue to reshape our societies, how and where we live and the world of work.

How will/should these developments impact on our model of higher educational provision which has remained relatively unchanged as if it was still a system catering to a small elite. After all, the top 100 universities listed by the Shanghai ARWU (Academic Ranking of World Universities) represent only ~1.4% of total students worldwide, and ~4% of EU students.

Attention is increasingly drawn to the other 50% – learners gradually being “left behind” by the current system and/or unable to access the system in any meaningful or sustained way. This is having consequences for social cohesion, political participation, and trust in our institutions.

Much more radical thinking is required as to how we structure, govern, fund, and deliver post-secondary education. This is driving many countries to reframe the policy discussion around tertiary education. But, beyond the headlines what do we mean by a tertiary education system? What do we want to achieve?

Today, I want to look at some factors driving the shift to tertiary education. I also want to consider some international responses and what the elements of a tertiary system might be. But first, I want to reflect briefly on the concept of systems and raise the idea of a tertiary ecosystem.

Towards tertiary ecosystems

As the first country to experience massification, the 1960s prompted a dynamic and far-reaching conversation in the US about growing popular demand for, participation in, access to, and the public mission of higher education. By then, 45% of California’s college-age population were already matriculating to higher

education compared with a national average of only 25%.² The Master Plan – attributed to Clark Kerr although he was just one of the authors – was an attempt to design the public system to address the twin issues of massification and diversification – and arguably resources. As the University of California regents remarked:

The “baby boom” children were reaching college age and massive increases in college enrollment were projected for the years 1960-1975. The Master Plan was born of the tremendous pressures to find a way to educate unprecedented numbers of students...³

As Marginson explains in his highly recommended 2016 account, *The Dream is Over*, the California Plan combined the values of public service with a commitment to universal access in a systemic, efficient, and structured manner. It aimed to create and preserve three distinct subsectors – or, more accurately, tiers – based on the principle of division of labour, talent, and knowledge-production. While providing a route to opportunity, it sought to enforce clear boundaries between elite research-intensive universities, mid-ranking teaching and research universities, and open access community colleges – with pathways “upwards” between them.

The Plan anticipated Martin Trow’s conceptualisation of the transition from elite to mass/universal higher education. In the decades since, Trow’s schema has been interpreted and used to explain different phases in the expansion or growth of higher education and as a model for a system in which diverse institutions operate in tandem.⁴ He keenly anticipated the way in which the democratisation of higher education would result in access and participation becoming a personal and societal “obligation” whereby “failure to go on to

² Marginson, S. (2016). *The Dream is Over. The Crisis of Clark Kerr’s California Idea of Higher Education*. p33. Retrieved from <https://www.ucpress.edu/book/9780520292840/the-dream-is-over>

³ University of California Regents. (1999). *The California Master Plan for Higher Education*. University of California. Retrieved from <https://regents.universityofcalifornia.edu/regmeet/july02/302attach1.pdf>

⁴ Trow, M. (1973). *Problems in the Transition from Elite to Mass Education*. Berkeley, California. Retrieved from <https://files.eric.ed.gov/fulltext/ED091983.pdf>

higher education from secondary school is increasingly a mark of some defect of mind or character that has to be explained or justified or apologized for.”⁵

While the Master Plan proffered the “idea of higher education as more than a collection of individual institutions”⁶, Trow considered the way in which higher education would come to be defined and changed by “problems” – I prefer “challenges” – of expansion. This would affect not only governance arrangements, delivery modes and other matters but also the interaction between higher education and the state, and wider society – a theme taken up by Burton Clark in his work on “co-ordination”.

By the 1990s, discussion switched to Europe, and elsewhere, as massification took off in these countries and regions.

Three brief observations

First, what’s clear – and arguably understandable given the circumstances – the focus was on higher education. The supremacy of the knowledge economy and human capital paradigms, alongside formalisation of the bachelor/master/doctorate ladder, converged to distinguish and boost the significance of the research university sector. The rise of global rankings, and the battle for talent, reinforced its role as the gateway to the global economy. The post-secondary space not only became defined by higher education – or more precisely by research universities – but universities were effectively affirmed by policymakers and scholars alike as *the* post-secondary system – and resources have been directed accordingly.

Second, as a result, the rest of the post-secondary sector – which caters for most of our learners in highly diverse and specialized institutions – has been effectively air-brushed out of consideration. While Kerr acknowledged the role played by community colleges, the California Plan was arguably intent on preserving the elite role of the research-and resource-intensive University of

⁵ Trow, M. (1973). *Problems in the Transition from Elite to Mass Education*. Berkeley, California. p10. Retrieved from <https://files.eric.ed.gov/fulltext/ED091983.pdf>

⁶ Marginson, S. (2016). *The Dream is Over. The Crisis of Clark Kerr’s California Idea of Higher Education*. p19. Retrieved from <https://www.ucpress.edu/book/9780520292840/the-dream-is-over>

California system. The community colleges have been/are rightly praised as being an entry route for widening participation and open access, but sadly they are more likely to be less-funded and their students less-resourced despite the populations they serve – arguably a regressive approach.

Third, post-secondary not simply higher education is increasingly and widely recognized as a vital component of the infrastructure of our societies and economies. Anthony Carnevale (Centre of Education and the Workforce, Georgetown University) argues that at least two years post-secondary is essential for 21st century society and the labour market.⁷ However, the sector has been allowed to evolve in an ad hoc and haphazard way.⁸

Diversity and differentiation are considered key concepts of mass systems of education – albeit too often they have led to static configurations with impermeable barriers reinforcing social stratification according to labour market requirements and simplistic assumptions about knowledge-production (i.e., basic v applied). While the Master Plan was praised for “preserving the separate ‘missions’ of the three types of public institutions”⁹, other countries “solved” the problem by implementing a strict *binary* between traditional universities and what were pejoratively called “non-universities”.

That the boundaries are rigid and systems static is often seen as a virtue, but it has also been a huge disadvantage. Over time, societies and labour markets have changed and disciplines have moved up the value chain leading boundaries to blur. There has been a seismic shift from simplistic differentiators to a broader understanding of diversity: public and private; national and international; global and corporate; academic, technical, vocational and professional; comprehensive and specialist; campus-based and virtual; etc. as

⁷ Carnevale, A. P., Strohl, J., Cheah, B., & Ridley, N. (2017). *Good Jobs that Pay without a BA*. p32. <https://goodjobsdata.org/wp-content/uploads/Good-Jobs-States.pdf>; Moody, K. (2023, March 9). More than half of jobs don't need 4-year degree requirements, report says. *Higher Ed DIVE*.

⁸ Altbach, P.G. (2017) “The Necessity and Reality of Differentiated Post-secondary Systems” in Altbach, P. G., Reisberg, L., & de Wit, H. (Eds.). (2017). *Responding to Massification. Differentiation in Postsecondary Education Worldwide*. German Rector's Conference, Universitat Hamburg and Korber Foundation. p15, 21.

⁹ OECD quoted in Marginson, S. (2016). *The Dream is Over. The Crisis of Clark Kerr's California Idea of Higher Education*. p20. Retrieved from <https://www.ucpress.edu/book/9780520292840/the-dream-is-over>

well as institutions straddling categories.

It's clear that the thinking and models that underpinned the first phase of massification are no longer appropriate to meet individual and societal demands and requirements today and into the future. After all, children born today, and our students, will live into the next century.

Accordingly, I want to suggest we talk about the *tertiary ecosystem*.

The concept of systemness has been credited to Neil Smelser who described the modern research university as a “multi-campus network” of inter-related parts and relationships.¹⁰ Nancy Zimpher operationalised the concept during her tenure as Chancellor of SUNY. In 2013, she wrote:

Systemness is the ability of a system to coordinate the activities of its constituent campus so that, on the whole, the system behaves in a way that is more powerful and impactful than what can be achieved by individual campuses acting alone.¹¹

I refer to this as “maximising capacity beyond individual capability”.

The concept exposed underlying tensions between “flagships” and the rest of the post-secondary system,¹² to which Zimpher retorted that flagships are not “owed some kind of privileged treatment.”¹³ Despite this exchange, system thinking, like that of SUNY’s *Higher Education System 3.0* or Ron Barnett’s ecological approach, are still focused on “shaping a higher education system”.

¹⁰ See reference in Marginson, S. (2016). *The Dream is Over. The Crisis of Clark Kerr’s California Idea of Higher Education*. p26. Retrieved from <https://www.ucpress.edu/book/9780520292840/the-dream-is-over>; Wikipedia. (09 March 2023). Systemness. Retrieved from <https://en.wikipedia.org/wiki/Systemness>

¹¹ Zimpher, N. L. (2013). Systemness. Unpacking the Value of Higher Education Systems. In J. E. Lane & D. B. Johnstone (Eds.), *Higher Education Systems 3.0. Harnessing Systemness, Delivering Performance* (pp. 27–44). SUNY Press. p27; see also Goldrick-Rab, S. (2012, October 23). The Power of Systemness. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/views/2012/10/04/strengthening-systems-would-improve-public-higher-education-essay>

¹² Berdahl, R., Sample, S., & Rall, R. M. (2014, March 6). Are Systems Bad for Flagships? *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/views/2014/03/07/are-state-systems-endangering-our-public-flagship-universities-essay>

¹³ Zimpher, N. L. (2014, March 13). Collaboration, not competition. *Inside Higher Ed*. <https://doi.org/10.4018/978-1-4666-7363-2.ch040>

I propose instead to adapt the concept of eco-system. In doing so, I am deliberately widening our lens to embrace the entire post-secondary landscape as one in which different types of education, training, and R&I actors interact with each other in formal, informal, and non-formal arrangements which are mutually and societally beneficial and interdependent (open/hidden). The ecosystem is a dynamic space wherein the number, type, role, and responsibilities of providers, individually and collectively, evolves and modifies over time in response to the changing environment. Whilst recognising distinct missions, notably there is no implicit hierarchy.

Five different sets of ideas – widely familiar to you all – have influenced my thinking:

1. *Civic/Engaged University* foregrounds engagement, the co-production of knowledge and public value because complex problems require collaborative solutions. Most significantly, collaboration involves not just academics and enterprise but all educational providers (HE and FET/VET) as well as schools and civic society.¹⁴
2. *Innovation Networks and Regional Clusters* – R&I depends on and derives from interactions across a network of different actors conducted through multi-lateral, inter-regional and global networks, increasingly in the spirit of co-creation and embracing an inclusive and iterative model of discovery and innovation.¹⁵ This is the substantive message of the SDGs (Sustainable Development Goals).

¹⁴ Goddard, J., Hazelkorn, E., Kempton, L., & Vallance, P. (2016). *The Civic University: The Policy and Leadership Challenges*. <https://doi.org/10.4337/9781784717728>; Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. <https://doi.org/10.2307/2076669>; Carayannis, E. G., Campbell, D. F. J., & Rehman, S. S. (2015). Mode 3 knowledge production: systems and systems theory, clusters and networks. *Journal of Innovation and Entrepreneurship*, 5(1). <https://doi.org/10.1186/s13731-016-0045-9>; Carayannis, E. G., Barth, T. D., & Campbell, D. F. (2012). The Quintuple Helix innovation model: global warming as a challenge and driver for innovation. *Journal of Innovation and Entrepreneurship*, 1(1), 2. <https://doi.org/10.1186/2192-5372-1-2>; Calhoun, C. (2006). The University and the Public Good. *Thesis Eleven*, 84(7), 7–43. Retrieved from <http://www.nyu.edu/ipk/calhoun/files/calhounTheUniversityAndThePublicGood.pdf>

¹⁵ Woolford, J., & Boden, M. (Eds.). (2021). *Higher Education for Smart Specialisation. A Handbook*. v2 (2.0, JRC TECHNICAL REPORT). Retrieved from <https://s3platform.jrc.ec.europa.eu/en/w/higher-education-for-smart-specialisation-a-handbook-1>; Porter, M. E. (2003). The Competitive Advantage of Regions. *The Indiana*

3. *Geography of Place* – being place-based and place-responsive is an approach which starts from understanding the interconnections and relationships between the physical place (rural and urban) and socio-economic issues. Schools, colleges and universities are active contributors to place-making, innovation, social and economic development – as collaborators and co-producers but not sole providers of new ideas or outcomes.¹⁶

4. *Governance* – underpinned by strategic vision and sustainable arrangements to ensure coherence, collaboration and coordination between different actors each of which have their own internal logics and ambitions.

5. *Biodiversity* – describes the rich variation of life forms wherein each species plays a critical role, mutually supporting each other, without which the entire system may collapse.¹⁷

Together, these concepts embody the 4-Cs of coherence, collaboration, coordination, and co-production – without which a dynamic tertiary education eco-system is not possible or achievable.

Leadership Summit. Indianapolis; Porter, M. E. (2007). Colleges and Universities and Regional Economic Development: A Strategic Perspective. *Forum for the Future of Higher Education*, Cambridge, Mass. Retrieved from <http://forum.mit.edu/wp-content/uploads/2017/05/ff0710s.pdf>; Leydesdorff, L., & Etzkowitz, H. (2001). The Transformation of University-Industry-Government Relations. *Electronic Journal of Sociology*, 5, 338–344; EU, Responsible Research and Innovation (RRI), Retrieved 05 July 2023, <https://rri-tools.eu/about-rri>; Foray, D., Goddard, J., Beldarrain, X. G., Landabaso, M., McCann, P., Morgan, K., Nauwelaers, C., & Ortega-Argilés, R. (2012). *Guide to Research and Innovation Strategies for Smart Specialization (RIS3)* (Issue May). <https://doi.org/10.2776/65746>

¹⁶ Goddard, J., & Kempton, L. (2016). *Universities in leadership and management of place*. Retrieved from <http://www.ncl.ac.uk/media/wwwnclacuk/curds/files/university-leadership.pdf>; Edwards, J., Marinelli, E., Arregui-Pabollet, E., & Kempton, L. (2017). *Higher Education for Smart Specialisation. Towards strategic partnerships for innovation* (No. 23/2017). <https://doi.org/10.2760/376572>; EU Smart Specialisation Platform (n.d.), Home. Retrieved 04 July 2023, <https://s3platform.jrc.ec.europa.eu/what-we-do#:~:text=Smart%20specialisation%20is%20a%20place%2Dbased%20approach%2C%20meaning%20that%20it,to%20make%20choices%20for%20investment>.

¹⁷ Wikipedia. (2023, July 2) Biodiversity. Retrieved 04 July 2023 from <https://en.wikipedia.org/wiki/Biodiversity>

Changing context

Over the last 50 years or so, post-secondary education has arguably been democratised.¹⁸ In 2022, the share of 25–34-year-olds with a tertiary qualification in OECD member countries exceeded 50%. On average across the OECD, 78% of first-time tertiary graduates completed a BA degree but only 18% completing a short cycle tertiary diploma;¹⁹ EU data shows only 9% of first-time tertiary graduates were short cycle TVET/FET graduates.²⁰

Over the next decades, participation in advanced countries will grow at a slower rate in contrast to the Global South which is expected to expand.²¹ This growth is reflected in the growing number of universities, rising from around 12,000 in 1997 to over 20,000 officially accredited or recognized higher education institutions today (HEIs) today.²² Notably, there is no comprehensive data on the rest of the post-secondary system.

In advanced economies, while economic and technological requirements for labour have pushed skill demand beyond secondary education, the pursuit of status and social advantage has driven demand for degree-level qualifications.²³ These developments are leading to an increasingly polarised labour market between highest- and lowest-skilled occupations alongside a hollowing out of middle-skilled jobs.²⁴ We tend to focus on the rising demand

¹⁸ Cantwell, B., Marginson, S., & Smolentseva, A. (Eds.). (2018). *High Participation Systems of Higher Education*. <https://doi.org/10.1093/oso/9780198828877.001.0001>; Trow, M. (1973). *Problems in the Transition from Elite to Mass Education*. Retrieved from <https://files.eric.ed.gov/fulltext/ED091983.pdf>

¹⁹ OECD. (2020). *Indicator B5 Who is expected to graduate from tertiary education?* <https://doi.org/10.1787/eag-2018-18-en>

²⁰ Cedefop. (2018). *How many young people obtain a VET qualification at tertiary level?* p218. Retrieved from <https://www.cedefop.europa.eu/en/publications-and-resources/statistics-and-indicators/statistics-and-graphs/21-how-many-young-people-obtain-vet-qualification>

²¹ OECD. (2022). *Spotlight on Tertiary Education. Findings from Education at a Glance 2022*. Paris; Williams, J., & Usher, A. (2022). *World Higher Education: Institutions, Students and Funding 2022*. Toronto: Higher Education Strategy Associates.

²² International Association of Universities, World Higher Education Database. Retrieved 20 February 2023, <https://www.whed.net/home.php>

²³ Marginson, S. (2018) High Participation Systems of Higher Education, in Cantwell, B., Marginson, S., & Smolentseva, A. (Eds.). *High Participation Systems of Higher Education*. <https://doi.org/10.1093/oso/9780198828877.001.0001>

²⁴ ILO. (2015). *Is the hollowing out of middle-skill jobs an unavoidable consequence of technological advancement?* International Labour Organization. https://www.ilo.org/newyork/voices-at-work/WCMS_363034/lang--en/index.htm

for higher skills, but ignore the fact that almost 45% of jobs will require medium level skills – those which require some post-secondary education and training but less than a four-year college degree.²⁵ This is having visible consequences for equity, social cohesion and political participation.

As post-secondary education has expanded and evolved, it has diversified. Learners now include people previously unable to access education due to socio-economic circumstances, age, gender, race/ethnicity, citizenship status as well as people combining work with study or family responsibilities. In response, new types of institutions with different missions, programmes and modes of study have emerged to meet the demands and needs of this diverse cohort of learners and of society – many of which are in the private sector. However, there has often been reluctance to consider further or adult education, continuing education, or even life-long learning as a key part of the tertiary landscape.²⁶ Even the term LLL ignores the fact that all learners are life-long learners.

Overtime boundaries between vocational, professional, and academic have become porous. Emphasis on learning outcomes and employability have meant traditional universities and polytechnics often offer similar programmes. Indeed, professional/vocational education now constitutes a significant proportion of all programmes in universities while mounting professionalisation of many other fields has created a credential domino-effect throughout the wider post-secondary system. Having said this, I think it is important to acknowledge that education and training which aims to equip learners with the “knowledge, know-how, skills and/or competences required in particular occupations or more

²⁵ Cedefop. (2018). *Skills forecast. Trends and challenges to 2030*. Retrieved from https://www.cedefop.europa.eu/files/3077_en.pdf; Carnevale, A. P., Strohl, J., Cheah, B., & Ridley, N. (2017). *Good Jobs that Pay without a BA*. p32. Retrieved from <https://goodjobsdata.org/wp-content/uploads/Good-Jobs-States.pdf>

²⁶ van Damme, D. (2023). The Widening Space of Postsecondary Education. *International Higher Education*, 114 (Spring). Retrieved from <https://www.internationalhighereducation.net/api-v1/article/!/action/getPdfOfArticle/articleID/3653/productID/29/filename/article-id-3653.pdf>

broadly in the labour market” is an approach to teaching and learning and not necessarily something to be ascribed to a type of institution.²⁷

Higher education (ISCED 6-8) is clearly delineated by easily recognisable qualifications (Bachelors, Masters, Doctorate) whereas provision of, and attitudes to the “non-university” sector vary considerably. The nomenclature itself illustrates the extent to which academic and public discourse and policy has often framed these institutions, and their students, as “the other”. Different types of credentials and descriptors, often with little recognition beyond their country, also makes it hard to track and compare.

As higher education participation has risen, TVET/FET has declined – seen only as an alternative access route to higher education or a provider “of last resort”.²⁸ Courses are often limited in nature and/or perceived as a dead-end. Even in Germany, which has a historically strong vocational sector, societal preference for higher levels of education is surging. Allegations of boundary crossing and “mission creep” – usually made by research universities rather than the other way around – accelerates system tensions. As demographics play havoc with university enrolment, predatory behaviour, and cannibalisation of courses, egged on by funding systems, is common. Even learning pathways – an important widening access strategy – is often dominated by higher education.

Higher technical/vocational education has been given a lower priority in education and training policies in favour of expanding higher education. However, as Carnevale has argued, while a BA is “indisputably valuable...it is not the only avenue to remunerative and fulfilling work. Expanding opportunities in career and technical education and certain blue-collar and STEM occupations could also help more young people achieve financial security.”²⁹

²⁷ UNESCO-UNEVOC, *TVETipedia Glossary*, Technical and vocational education (TVE), Retrieved from <https://unevoc.unesco.org/home/TVETipedia+Glossary/show=term/term=Technical+and+vocational+education#start>; Cedefop. (2014). *Terminology of European education and training policy* (2nd ed.), Luxembourg. p292. Retrieved from <https://www.cedefop.europa.eu/en/publications/4117>

²⁸ Parry, G. (2022) “On the roles and relations of further education colleges in England”, presentation to University of Toronto.

²⁹ Carnevale, A.P. (2023). *CEW Quarterly, Winter Edition*.

The debate around skills and skill-mismatch is too readily dismissed. It is true that the link between qualifications and occupations is complex and multifaceted. It is also true that skills and employment are not the only indicators of success; economic growth, well-being and active citizenship reinforce each other.³⁰ But there are genuine issues, such as a growing list of critical (middle) skills needs, the OECD Survey of Adult Skills (PIAAC)³¹ showing poor adult skills, and evidence of employers by-passing academic credentials or developing their own - which is raising questions about quality assurance.³²

Regionalism and regional disparities are another key concern. The UN estimates 68% of the world's population will live in urban areas by 2050 – around which social, cultural, and economic life concentrates disproportionately.³³ As this happens, gaps in opportunities and social-economic divisions widen. While there are few countries that don't have some form of regional policy, it is rarely coherent across government portfolios or integrated with the education system – and vice versa.

Demographic changes pose another significant challenge. In many OECD countries, the traditional post-secondary education cohort is declining as older people grow as a percentage of the population. They will require upskilling, re-skilling or repurposing their qualifications in response to changes in the labour market – or their own personal life choices. But higher education has been slow

³⁰ Llena-Nozal, A., Martin, N., & Murtin, F. (2019). The Economy of Well-Being: Creating Opportunities for People's Well-Being and Economic Growth. In *OECD Statistics Working Papers*. <https://doi.org/https://doi.org/10.1787/498e9bc7-en>

³¹ OECD. (2019). *Skills Matter: Further Results from the Survey of Adult Skills*. <https://doi.org/10.1787/9789264258051-10-en>; see also van Damme, D., & Zahner, D. (Eds.). (2022). *Does Higher Education Teach Students to Think Critically?* <https://doi.org/10.1787/cc9fa6aa-en>

³² Griffith, L. (2017). *International Trends in Higher Education, 2016-2017*. p10. Oxford University. Retrieved from http://www.ox.ac.uk/sites/files/oxford/trends_in_globalisation_WEB.pdf; Eaton, J. S. (2016). The quest for quality and the role, impact and influence of supra-national organisations. In E. Hazelkorn (Ed.), *Global Rankings and the Geopolitics of Higher Education* (pp. 324–338). London and New York: Routledge; Lanahan, L. (2022, July). The new labor market: No bachelor's required? *The Hechinger Report*. Retrieved from <https://hechingerreport.org/the-new-labor-market-no-bachelors-required/>; Grove, J. (2019, September 12). Reputation of degrees “at risk if graduate skills don't improve.” *Times Higher Education (THE)*.

³³ MIT. (n.d.)., Complex Economic Activities Concentrate in Large Cities, Retrieved 04 July 2023 from <https://www.media.mit.edu/projects/complex-economic-activities-concentrate-in-large-cities/overview/>; Our World in Data. (n.d.). “What share of people will live in urban areas in the future?”, Retrieved 04 July 2023 from <https://ourworldindata.org/urbanization#what-share-of-people-will-live-in-urban-areas-in-the-future>

to adapt and TVET/FET colleges – while usually more open to mature learners – have not readily developed ways for people to build on their credential.

Meeting the needs of a more diverse learner population requires significant changes in the way post-secondary education is designed, delivered, assessed, and funded. This includes innovative and accessible programming, a shift away from standardised semesters, reduced time from programme ideation to delivery, stackable and transferable credit accumulation, credentials based on knowledge/skills gained rather than time-served, earn-and-learn/dual-study models, etc.³⁴ There is increased emphasis also on learning and career pathways to facilitate coherent transitions between, or within, different institutions and onwards to a chosen career. These developments suggest it may no longer matter where learning takes place.

The creation of regional research and innovation (R&I) eco-systems forms a key part of place-based and place-responsive smart specialisation strategies.³⁵ By putting so much focus on research universities and start-ups, however, we miss the key point. It is people – our graduates –, who catalyse knowledge, contribute to a shared pool of ideas throughout society and drive/lead innovation *not* the institutions.³⁶

This lacuna has skewed our understanding and appreciation of TVET/FET whose graduates have the capacity to support innovation by raising the overall

³⁴ Koenig, R. (2023, April 18). What If We Measured Learning Through Skills Gained, Not Time Spent in the Classroom? *EdSurge*.

³⁵ European Commission. (n.d.). Smart Specialisation Platform. Retrieved from <https://s3platform.jrc.ec.europa.eu>

³⁶ See: Bye, B., Fæhn, T. and Heggedal, T.R. (2009). Welfare and growth impacts of innovation policies in a small, open economy: An applied general equilibrium analysis, *Economic Modelling*, 26, 1075–1088; Mowery, D. C. and Oxley, J. E. (1995). Inward technology transfer and competitiveness: The role of national innovation systems, *Cambridge Journal of Economics*, 19, 67-93; Keller, W. (1996). Absorptive capacity: on the creation and acquisition of technology in development, *Journal of Development*, 49, 199-227; Dowrick, S. (2003). A Review of the Evidence on Science, R&D and Productivity, Australia National University. Paper prepared for the Department of Education, Science and Training, Australian Government; Martin, B. R. and Tang, P. (2007). The benefits from publicly funded research, Science and Technology Policy Research Working Paper 161, University of Sussex; Salter, A. J. and Martin, B. R. (2000). The economic benefits of publicly funded basic research: a critical review, *Research Policy* 30, 509–532. Retrieved from http://in3.dem.ist.utl.pt/master/stpolicy03/temas/tema6_1a.pdf

productive and absorptive capacity in high-tech as well as low-tech industries.³⁷ They can play a huge role creating intrapreneurs as well as entrepreneurs because product and social innovation can be equally, if not more, powerful than technological innovation. And it is vital for reskilling and upskilling former “industrial” areas. Indeed, it will be impossible to close the regional disparity gap if we fail to understand people are stickier than knowledge.

Models for financing our systems vary considerably but they principally focus on college-ready, full-time undergraduate learners and higher education. Spending per learner is highest at the tertiary level, and higher again for those institutions which undertake research. In contrast, funding for mature learners, life-long learning opportunities and the quality of facilities and supports tend to be limited, and don’t take sufficient account of challenges experienced by diverse learners and those with family or other responsibilities.³⁸ This imbalance fuels public perceptions as to which educational opportunities are more favoured.³⁹ Moreover, the idea that we can develop a funding system separately from a coherent vision and strategy is nonsense. And that’s what is happening – the fees lobby trumps logic.

Governance arrangements also differ. The California Master Plan and traditional binary arrangements appeared to be settled arrangements, but they have proven to be inflexible and unresponsive to societal and economic changes. At the same time, there is a realisation that quality outcomes for the tertiary system depend on the educational system-as-a-whole. Creating a separate further and higher education and R&I ministry is a good idea as long as it doesn’t sever the post-secondary system from the rest of the educational system. Research shows us time-and-again that “by the time children enter

³⁷ Hazelkorn, E., & Edwards, J. (2019). *Skills and Smart Specialisation. The role of Vocational Education and Training in Smart Specialisation Strategies*. Publications Office of the European Union. Retrieved from <https://s3platform.jrc.ec.europa.eu/documents/20182/81824/Skills+and+Smart+Specialisation+The+role+of+Vocational+Education+and+Training+in+Smart+Specialisation+Strategies/3bf420ed-c7f6-4507-aabe-a9a2a60901d6>

³⁸ See recent initiative by the UK government, Lifelong Learning Loan Entitlement (LLE) proposal. Education Hub. (2023). Everything you need to know about the Lifelong Learning Bill. UK Government. <https://educationhub.blog.gov.uk/2023/02/02/everything-you-need-to-know-about-the-lifelong-learning-bill/>.

³⁹ Westwood, A. (2023, January 23). Why Labour should prioritise tertiary reform over tuition fees. *WonkHE Blog*.

school, their levels of cognitive, socio-emotional and physical development are already vastly unequal,”⁴⁰ and this is reproduced through the educational system and into the labour market.

Why tertiary?

These developments are forcing policymakers – and all of us concerned with education and society – to focus on long-standing weaknesses in the education and training systems, and the way in which post-secondary education is being delivered and funded. Assumptions that massification would *on its own* provide opportunities for everyone with mechanisms for social inclusion and mobility are being heavily questioned, and entry routes are now seen as just as likely to close off educational and career opportunities as to open them. Getting the balance right can be tricky, not least because existing boundaries between, and biases about, academic, professional, vocational, and technical/technological education and training are blocking innovative thinking.

What is tertiary? Tertiary education is a wide-ranging term used to describe the educational landscape post-secondary schooling, what the Bologna Framework refers to as Third Cycle. As the OECD noted, “the more common term was higher education, but tertiary education was adopted...to reflect the growing diversity of institutions and programmes.”⁴¹ Due to different regulations around mandatory school attendance, some countries/jurisdictions use the word post-compulsory.

ISCED identifies tertiary as encompassing everything from short-cycle level 5 to doctoral or equivalent level 8.⁴² Context depending, this includes technical/vocational education and training (TVET/FET), polytechnics/UaS,

⁴⁰ Cattan, S., Fitzsimons, E., Goodman, A., Phimister, A., Ploubidis, G. B., & Wertz, J. (2022). Early childhood inequalities. *IFS Deaton Review of Inequalities*, 76. p5. Retrieved from <https://ifs.org.uk/inequality/early-childhood-inequalities-chapter/>

⁴¹ Santiago, P., Tremblay, K., Basri, E., & Arnal, E. (2008). Governance, Funding, Quality. In *Tertiary Education for the Knowledge Society* (Vol. 1). p25. Retrieved from <https://www.oecd.org/education/skills-beyond-school/41266690.pdf>; Unangst, L. (2017). Diversification and differentiation in postsecondary education: What the research shows. In P. G. Altbach, L. Reisberg, & H. de Wit (Eds.), *Responding to massification. Differentiation in postsecondary education worldwide* (pp. 24–34). p24. German Rector’s Conference, Universitat Hamburg and Korber Foundation.

⁴² UNESCO UIS. (2011). *International Standard Classification of Education (ISCED)*. <https://doi.org/10.1007/BF02207511>

university colleges and universities as well as adult and community education, foundation (literacy and numeracy), second-chance education, skills development, and continuing education and LLL. It may seem strange to include literacy/numeracy, community education etc. but who else provides for mature learners? This is a huge agenda.

What are we trying to achieve? For me – this is always the key question. As the conversation between the Cheshire Cat and Alice goes:

Alice: "Would you tell me, please, which way I ought to go from here?"

Cheshire Cat: "That depends a good deal on where you want to get to".

New Zealand was one, if not the, first country to engage with the issue of tertiary – and their reports (beginning 2000) remain for me some of the most thoughtful and comprehensive pieces of work on the issue.⁴³ It is an exemplar of policymaking, and even included a review in 2016. (NB. the OECD's first foray into this terrain was 2008.) The conclusions are as pertinent today:⁴⁴

1. A broad definition of the knowledge society should be adopted in the development of policy for tertiary education. This includes a recognition of the potentially valuable contribution of all forms of knowledge.
2. The tertiary education system should be broadly defined to encompass all formal and non-formal learning outside the school system.
3. The needs of learners should be recognised as central to the design of the tertiary education system

⁴³ Smyth, R. (2023, May 18). A tertiary education commission: NZ has one that works. *Campus Morning Mail*. <https://campusmorningmail.com.au/news/a-tertiary-education-commission-nz-has-one-that-works/>

⁴⁴ Tertiary Education Advisory Commission. (2000). *Shaping a Shared Vision. Initial Report of the Tertiary Education Advisory Commission*. Wellington, New Zealand. p4.

The 2016 Welsh report – now being implemented – proposed a framework towards 2030,⁴⁵ with Guiding Principles shaping the direction of travel:

- System-view – build a coherent educational eco-system for Wales, which meets the needs of Welsh society and economy, now and in the future.
- Learning for Life – based on the fact people are living longer and healthier, and democratic society depends upon active, engaged, responsible citizens.
- Societal Contribution – education contributes to society and the economy through its graduates, new knowledge, and innovation, all of which are vital for personal and societal success and sustainability.
- Competition and Diversity – strong competitive and diverse institutions, working collaboratively and responsibly, to enhance excellence, strengthen competitiveness and build critical mass in a global environment.
- Learner Focused – placing the needs of learners of all ages, gender, and talent, throughout their active lives, at the centre of the educational system, enabling and facilitating changing opportunities and life- circumstances over time.
- Institutional Autonomy – respect for institutional autonomy within an over-arching framework of a system-approach to educational provision and delivery, and strengthened institutional governance, responsibility, and accountability.

Scotland has been on this journey for quite a while. Various US states operate a single system combining community colleges, regional and “flagship” universities albeit it’s not clear there is any underlying philosophy rather than a

⁴⁵ Hazelkorn, E. (2016). *Towards 2030: A framework for building a world-class post-compulsory education system for Wales*. Gov.Wales.
<https://www.gov.wales/sites/default/files/publications/2018-02/towards-2030-a-framework-for-building-a-world-class-post-compulsory-education-system-for-wales.pdf>

status hierarchy. Australia is currently reviewing its system, and so are Portugal and the Netherlands.

In 2022, the Irish Government announced the decision to create a *Unified Tertiary System for Learning, Skills and Knowledge* in which, irrespective of where learners enter further or higher education or their research career, they should be in a single system which responds to individual talents, ambitions, and motivations and responds to middle and high-level skills needs. Significantly it speaks of institutions being differentiated according to mission, role and responsibilities but working collaboratively to meet common social, cultural, and economic objectives.⁴⁶

Setting out objectives is arguably the easy part. But, there is no simple blueprint and context matters. Our systems have evolved over decades in somewhat chaotic and confusing ways; there are many types of institutions, and social-cultural aspirations have an overdetermining influence over institutional and disciplinary choices no matter how much we try/wish to influence learner choices. Focus is usually on public institutions, but the private sector should be part of the conversation – their graduates are also part of our society.

Making change is complicated and can be messy and costly. And governments are notoriously poor at long-term thinking and investing in the future. Policy alignment, consistency (not always possible where ideological factors dominate) and time are critical but not always realistic given the political/electoral calendar.

This could change as there are signs, post-Covid, that citizens have far greater expectations of the state and its role, *and* states themselves are more willing to engage directly in actions of strategic importance. The big state is back.

Elements of a tertiary ecosystem

Here are some ideas doing the ‘rounds.

1. *Single Integrated Agency for Tertiary Education* as the over-arching governance, regulatory and performance structure for the tertiary system. A

⁴⁶ Boland, T. and Hazelkorn, E. (2023) DFHERIS Paper 1, [Unpublished manuscript].

single agency has benefits – it’s a one-stop shop for everyone to be part of the conversation. It can break down silos – as long as the agency itself doesn’t simply replicate existing structures – and can link all regulators and avoid capture by lobby groups. Learners should be obligatory participants. And, a cross-government approach is vital to ensure alignment and success.

But over reliance on a unified agency to solve all social and economic ills is naïve. There is a risk that after major structural reform the unified system is no better at alignment between the education and training system and societal, economic and skills needs than the current system. It may help solve articulation issues, inform learner and institutional choices, and promote collaboration, but it won’t solve the big problems, such as funding and skills alignment. And many societal challenges are not simply a supply-side problem.

The big challenge/risk is whether an integrated system would lead to a homogenous system with all post-secondary level institutions doing, or striving to do, much the same thing. Would it lead to strong (research)universities cherry-picking and/or incorporating the more attractive aspects of TVET/FET and other post-secondary providers to the detriment of learners and society?

2. *Significantly Strengthened TVET/FET System* is now recognised as an essential component of the tertiary eco-system. It facilitates skill development as well as innovation diffusion and can have a more direct impact on sustainable social, cultural, and economic growth, especially in less developed regions. As part of an integrated and networked system, its geographic reach into small towns means we have the capacity to provide opportunities to the greatest proportion of our populations. Unfortunately, the geography of access is rarely discussed.⁴⁷

As the UK *Commission on College of the Future* recommends there is an urgent need for a long-term vision for education and training from school to adults – and arguably from cradle to grave.⁴⁸ Considerable support for building strategic

⁴⁷ White, P. M. (2016). *Geographic and socio-economic inequalities and access to higher education: Is the proximity of higher education institutions associated with the probability of university attendance for young people in England?* [MSc dissertation, University of Oxford].

⁴⁸ The Independent Commission on the College of the Future. (2020). *The UK-wide final report*. Retrieved from <https://www.collegecommission.co.uk/>

capacity, updating curriculum, and investing in human and capital resources – effectively the same attention that has been poured into universities over the decades – must now be applied to TVET/FET.

In many countries, such as the UK, further and higher education, and apprenticeships are treated as distinct systems, making it hard for people and employers to access the system – while excessive competition reduces opportunities and quality provision. Guided and navigable learning pathways and dual-study programmes are a positive development, but they run the serious risk of simply reinforcing the role of FET as an alternative pathway to HE. Likewise, too much emphasis on bilateral agreements or narrow pathways would simply capture learners and restrict opportunity and choice.

If policy remains fixated on traditional college-ready, full-time undergraduate students studying on a campus/residential model little will change.

3. *Mandatory National Credit Accumulation and Transfer System* could create opportunities for learners of all ages and ability to make choices and progress according to their own pace and circumstances by building credits and credentials over time and carrying them from one programme, or one institution, or form of education and training, to another. Where such arrangements exist, they are predominately voluntary and subject to individual academic/institutional arrangements. This is no longer acceptable. ECTS or similar credit systems already exist alongside national qualifications frameworks. This can provide the foundation.

We have a more diversified learner population, but our systems still operate as if we have full-time students entering directly from secondary school to a fixed timetable of semesters/examinations. We measure outcomes in terms of graduates working in fields directly related to their course of study. And too much attention is given to staff-student ratios which reflect a romantic idea of small groups of class-room based learners. Information should be integrated and more readily available for all learners – not on individual home-pages – but in a comprehensive and consolidated framework which enables people to choose the career and learner pathway most suitable for them. At the moment,

this information is dispersed across different institutional websites, making it almost impossible for (mature) learners to work out.

4. *Regional Research and Innovation Eco-Systems* is another concept whose time has come. There is growing policy focus on the importance of creating/strengthening sustainable regional R&I systems with strong cooperation between educational institutions, enterprise/SMEs, and civil society. It is a place-based/place-responsive approach characterised by identifying strategic areas based on strengths and potential of individual regions with wide stakeholder involvement.

However, there is a poor understanding – especially at policy level – about how skills development can support innovation with respect to, for example, technological and process innovations; skills and work organization practices; and innovation in low/mid-tech enterprises and SMEs which account for the large share of employment across Europe. Most resources are directed at research universities which have successfully captured both the argument and the funding.

5. *Revamped Funding Model* is required if we want to seriously reflect these broader objectives and changed circumstances. Our current systems (with national variations) primarily benefit full-time undergraduate students. Acknowledging the equity/inequity debate, we nonetheless spend too much time tinkering with HE student funding models.

Can a life-long loan scheme bring significant change and learner opportunities if the system as a whole and the culture underpinning it remains unchallenged and unchanged?⁴⁹ To simply provide funding in a marketized environment without, *inter alia*, the enabling quality and information infrastructure, will simply benefit those who already have the social capital to negotiate their way through the system, and correspondingly to stronger institutions. Indeed, an unintended consequence may be the weakening of the further education sector.

⁴⁹ Association of Colleges. (2023). *Briefing for Second Reading of the Lifetime Loan Entitlement Bill*.

Likewise, I understand why we have a funding model based on enrolment but has this unintentionally encouraged predatory behaviour by stronger institutions? Does it simply encourage getting students in the door without sufficient attention to successful completion and graduate success?

A reformed funding model should ensure full alignment with what a unified tertiary education strategy seeks to achieve. The aim should be to bring policy, governance, and funding together to ensure greater coherence, with no underlying discriminations between further and higher education for either learners or institutions. Ultimately the funding model begets the system.

Fundamentally, before we do anything, we need a whole-of-tertiary vision and strategy rather than cherry-picking populist initiatives. The post-secondary agenda is huge and has been ignored for far too long. As previously mentioned, it potentially encompasses technical/vocational education and training (TVET/FET), polytechnics/UaS, university colleges and universities. But it also includes adult and community education, foundation (literacy and numeracy), second-chance education, skills development, continuing education and LLL. And it embraces the R&I agenda. So – what is the appropriate mix of educational opportunities and providers we require, and how do we deliver them in an integrated, effective, and coherent way? Policy matters.

Conclusion

My thesis is that while our systems of education and training have served our societies and economies well over decades, they have also contributed to deep pools of inequality and wasted talent and opportunity. To these are now added the elements I began with that are changing our world in fundamental ways and require an innovative policy response across our post-secondary education and training systems. The rapid and far-reaching nature of change is reflected in the fundamental and extraordinarily rapid development of artificial intelligence (AI). Chat GPT is but one, and maybe not even the most worrying, aspect.

Not only is there no room for complacency but our societies need to issue a call-to-arms to our education and training system – at all levels – and to those who make policy, plan, and invest. Collaboration across educational boundaries must also underpin research and inform innovative thinking.

At the post-secondary level, a unified, well-governed and well-financed tertiary education and training system offers the best way forward – breaking down decades of barriers and prejudices and putting the needs of learners, of all ages, backgrounds and abilities, front and centre as it responds to their individual talents, ambitions, motivations and life circumstances. The title of this paper asks a question “Is it time to rethink our model of post-secondary education?”, my answer is a resounding YES!