HIGHER EDUCATION GOVERNANCE AND REFORMS IN INDONESIA: ARE THE MATRICES OF AUTONOMY APPROPRIATE?

Jenny Ngo^a Sekolah Tinggi Teknik Surabaya Lynn Meek University of Melbourne

Abstract: This paper describes the current state of governance and reforms of Indonesia's higher education system. It seeks to identify the impact of and the constraints on the national higher education reform agenda with respect to institutional autonomy for public universities. Under the prevailing government regulations, 11 public universities have been converted to autonomous institutions and given financial and organizational autonomy. Financial autonomy means a change of the public funding mechanism from line-item budgeting to lump-sum funding, thereby accentuating the importance of outputs and performance, competition and market orientation. In response, the need for a spirit of innovation to increase research outputs and to achieve internationalization has become an important driver for universities. Managerial autonomy entails a loosening of state control in internal university governance. In autonomous universities, the Board of Trustees now holds most authority, representing a range of stakeholders, including the Government which appoints 35% of the members.

Keywords: Autonomy, governance, higher education reforms, Indonesia

Introduction

Indonesia's higher education system has experienced significant change over the past two decades. The Asian financial crisis of 1997, the political fall of the Suharto regime in 1998, and the rapid advance of globalisation, have all been major factors leading to higher education reform. Importantly, this reform has enhanced the financial and managerial autonomy of public universities.

Financial autonomy basically means budget cuts. It conveys a change of the public funding mechanism from line-item budgeting to lump-sum funding, thereby accentuating the importance of outputs and performance, competition and market orientation (Ngo, 2013). Cutbacks have challenged public universities to become more entrepreneurial to generate more funding. Autonomous universities are allowed to set their own tuition fees but at the same time ensure equal access through cross-subsidies; they are strongly urged to undertake collaborative research with industry and special projects with foreign universities; they can get research funding from the government through competition (Nizam, 2006). In response, the need for a spirit of innovation to increase research outputs and to achieve internationalization has become an important driver for universities. Managerial autonomy entails a loosening of state control in internal university governance. It implies no state control over internal university governance. Autonomous universities can select their own rector through internal election.

a Correspondence can be directed to: jennyngo@stts.edu

This paper describes the current state of governance and reforms of Indonesia's higher education system. It reviews the rationale behind the national higher education reform agenda with respect to institutional autonomy for public universities, and it seeks to identify the impact of and the constraints on that agenda.

The National Higher Education Setting

The higher education sector, which is the focus of this paper, is large and diverse. Based on statistics for 2018-19 (Higher Education Database, 2019), there are 4,734 higher education institutions (HEIs) in Indonesia, of which 4,294 are private-sector institutions and only 438 are public-sector institutions (see Table 1). Since the 1970s, the number of private HEIs has grown spectacularly, from below 400 in 1975 (Welch, 2007) to 4,734 in 2018-19. According to Welch (2007), this growth, at least up to 2007, occurred because "the state budget was manifestly insufficient to respond to spiralling demand, across Indonesia's scattered archipelago" (p. 671).

TYPES	PUBLIC	PRIVATE	TOTAL
University	81	518	599
Institute	65	158	223
College	85	2,467	2,552
Polytechnic	124	161	285
Academy	77	977	1,054
Academy Community*	6	15	21
Total	438	4,296	4,734

Table 1 Numbers of Indonesian HEIs In 2018-2019

*Vocational education (Diploma 1 and 2)

Source: Higher Education Database (2019)

In 2019, there are more than 5.8 million students enrolled in HEIs in Indonesia, with approximately 2.5 million students (43%) studying at public universities (Higher Education Database, 2019). The data show that girls are more likely to enrol in higher education institutions (HEIs) than are boys (54% and 46%, respectively) (Higher Education Database, 2019), with no significant variation in this regard across all types of HEIs. In 2019, there are 293,775 academic staff members, an increase from 237,837 in 2016, but only 42,497 of these staff members had earned a doctoral degree (Higher Education Database, 2019), leading to a low number of staff members holding professorial appointments (there are currently only 4,167 professors in Indonesia) (Science and Technology Index, 2019).

The Government allocates 20% of Indonesia's national budget to the education system. The value of the budget allocated to higher education has increased over recent years, but, as reported by the OECD in 2015 (p. 205), "the share spent from the overall budget for education on tertiary education has been reduced from 50.48% in 2013 to 48.97% in 2014." Based on the 2017 annual report of the Ministry of Research, Technology and Higher Education, the 2018 budget allocation increased to Indonesian Rupiah (IDR) 41.27 trillion from IDR 39.73 trillion in 2017.

Private HEIs receive only a small subsidy from the Government. They rely heavily on student tuition fees, which may be anything up to five times higher than the tuition fees paid by students attending public HEIs. Private HEIs are relatively independent of the State. They exercise control over their own resources and staffing appointments, including the appointment of their own rectors. There

are, however, various regulations applying to them. The Directorate General of Higher Education (DGHE) exercises responsibility through its 14 provincial Offices for Coordination of Private HEIs for ensuring compliance by private HEIs with these regulations. Private HEIs recruit potential students by means of institutional entrance exams. To maximise recruitment, many private HEIs are not very demanding in terms of their admission requirements, which has implications for quality.

Since 1975, the Government has routinely issued Higher Education Long Term Strategies (HELTS) for periods of up to 10 years. In HELTS III, covering the period from 1996-2003, the Government launched a fresh vision for the higher education system, described by Fahmi (2007, p. 3) as an attempt to establish a "new paradigm in higher education management, requiring improvements in quality and relevance, as well as geographical and social equity." This new paradigm involved five pillars: quality, autonomy, accountability, accreditation, and evaluation (DGHE, 2003). Before HELTS III could be properly implemented, however, the economy was gripped by the Asian financial crisis of 1997, and then by political instability after the fall of the Suharto regime in 1998. In these circumstances, universities were left more or less to themselves to define their role in society and a traditionally centralised approach to directing public HEIs became increasingly obsolete (Ngo, 2013). Institutional autonomy, accountability and transparency became the new strategic issues for higher education (Rosser, 2016).

Academic accountability in Indonesia is implemented in the form of accreditation systems managed by the National Accreditation Board for Higher Education, established in 1994. Further, Law No. 12 of 2012 concerning Higher Education regulates higher education quality assurance and accreditation. Based on Ministry of Research, Technology and Higher Education Regulation Number 32 of 2016, in carrying out its functions, the National Accreditation Board for Higher Education has an Accreditation Assembly (of eight members) and an Executive Board (of five members).

By March 2019, the National Accreditation Board for Higher Education had accredited 20,309 study programmes at all levels offered by HEIs (the National Accreditation Board for Higher Education, 2019). At the postgraduate level, there are 2,299 Master's programmes and 514 Doctoral programmes which have been accredited. The results of the accreditation process show that 3,080 study programmes and 87 HEIs evaluated obtained an A-grade rating. Those programmes obtaining A-grade ratings represented 39.4% of all accredited programmes offered by the public sector, but only 8% of all accredited programmes offered by the private sector.

Higher Education Reforms towards Autonomy

In July 1999, the Government enacted both Regulation 60/1999, concerning "changes in the administration of HEIS", and Regulation 61/1999, concerning "the establishment of [public] universities as legal entities". These Regulations sought to transform public universities by making them autonomous (Rosser, 2016). Regulations were issued to provide legal entity status for the University of Indonesia in Jakarta, Gadjah Mada University in Yogyakarta, Bogor Institute of Agriculture in Bogor, and Bandung Institute of Technology in Bandung. Each was given a five-year transition period in which to become a fully autonomous institution.

In HELTS IV, covering the period from 2003 to 2010, the Government extended legal entity status to more public universities, which were then encouraged, or some might say 'forced', to become less financially and managerially dependent upon the State. Public universities were, in effect, being required to become more cost-efficient and more entrepreneurial. As reported by Susanto and Nizam (2004, in Nizam, 2006, p. 41), and by Welch (2007, p. 680), public universities were forced to adopt a variety of strategies for financial survival. These strategies included: cost-savings, such as freezes on staff recruitment; cost-sharing, principally in the form of cross-subsidies between programs within individual universities; resource mobilisation, involving the delivery of programmes on a full-cost recovery basis, the provision of contract research services, and the provision of consultancy services; efficiency enhancing measures, such as changing resource allocation policies, increasing the emphasis placed on accountability, and insisting on evaluation procedures for the assessment

of performance; the imposition of 'special' fees, such as additional fees imposed above and beyond the regular tuition fees; and the conduct of various other income-generating activities, for example, selling staff members' services, publishing textbooks and selling student guides.

In 2009, all public higher education institutions (*Badan Hukum Milik Negara*) were given Educational Legal Institution (*Badan Hukum Pendidikan*) status, but this situation was subsequently reversed. Based on Act No. 12, 2012 about Tertiary Education, the label of Educational Legal Institution was cancelled and replaced by the label of State Higher Institutions-legal entity (*Perguruan Tinggi Negeri-Badan Hukum*). Currently, there are 11 public HEIs with the label of State Higher Institutions-legal entity (Ministry of Research, Technology and Higher Education, 2017), accounting for about 10% of all higher education enrolments. This status enables them to raise and manage their own funds, including block grants given to them by the Government. They are also able to appoint their own rectors. In contrast, other public HEIs, as part of the Government bureaucracy, have negligible managerial and financial autonomy.

Institutional Autonomy and its Challenges

Over the past decade, higher education in Indonesia has undergone rapid expansion and its economic significance has changed. The Government elected in October 2014, with Joko Widodo as President, separated the DGHE from the Ministry of National Education (MoNE) and merged the DGHE with the Ministry of Research and Technology. Presidential Regulation 13/2015 subsequently established a Ministry of Research, Technology and Higher Education, within which the DGHE remained responsible for the higher education sector.

As shown in Figure 1, public HEIs, if not declared autonomous, are directly accountable to the State, hence the solid line. Autonomous public HEIs remain subject to indirect steering by the State, hence the dotted line. Steering refers here that the fact that the Government retains the capacity to intervene through resource allocation and other mechanisms. The State does not, however, become directly involved in the internal governance and management of the autonomous public HEIs. Neither does it directly control the private HEIs, hence the dotted line for these institutions in Figure 1, but, as mentioned earlier, private HEIs are subject to coordination by provincial offices which are responsible for ensuring the implementation of rules and regulations by private HEIs concerning matters such as curriculum design, the establishment of new study programmes, programme accreditation, and research.

Figure 1 Simplified Organisational Structure of the Ministry of Research, Technology and Higher Education





Prior to these reforms, all public universities were service units of the State, with negligible financial autonomy, no staffing autonomy, highly restricted administrative autonomy and limited academic autonomy. After the reforms, public universities declared to be autonomous were given the freedom to function as independent legal identities, each responsible to its own Board of Trustees, with authority to develop institutional policies in areas of human resource management, financial management, and general administrative affairs.

The autonomous universities were also permitted to appoint and dismiss executive staff members; to approve and legalise strategic plans, working plans, and annual budgets; and to supervise and control institutional management. Boards of Trustees were appointed to represent key stakeholders (based on Government Regulation 61/1999, chapter VI section 7), including the Ministry, the Academic Senate, the community at large, and the institution's employees and students. All members of Boards of Trustees, except for student representatives who were appointed for one year only, were appointed by the Ministry for a period of five years. Rectors were declared to be 'ex-officio' members, and Boards of Trustees were required only to deliver an annual report to the Ministry and to make suggestions to the Ministry regarding university management.

Academic Senates have also changed. These bodies, which are comprised of the institution's rector and vice-rectors, deans, professors, the head of the library and representatives of the academic employees, are responsible for all academic decision-making. All members of an institution's Academic Senate, other than the rector and vice-rectors, are required to be elected by the university community. Each faculty may nominate a maximum of two professors. The Chair is elected from the members of the Senate for a period of two years and can be re-elected twice. Senate duties include: establishing academic procedures; establishing academic norms; establishing rules of academic freedom and scientific autonomy; supervising and controlling academic quality; establishing rules for ethics and for discipline regarding campus life; establishing procedures for evaluating or judging academic achievements and the capabilities and characteristics of *Civitas Academica*; providing suggestions to the Board of Trustees about the work of the members of the university executive in the academic field; and providing suggestions to the rector and vice-rectors in developing strategic plans, working plans and budgets. Senates may also give suggestions to the Ministry about the work of the Board of Trustees.

A third important body is the Board of Auditors. This is an independent body that evaluates the results of internal and external audits. At autonomous public universities, this Board reports to the Board of Trustees. Its members are appointed for five-year terms and can be dismissed by the Board of Trustees. The Board of Auditors receives and audits the institutional budget, which is then distributed to faculties by the rector. In return, each faculty dean is required to produce a semesterbased financial report for the rector, who then compiles a budget monitor which is sent to the Board of Auditors for review and eventual transmission to the Board of Trustees. The duties of the Board of Auditors include: establishing internal audit policies; evaluating the financial results of audits; and making recommendations about institutional finances to the Board of Trustees.

The University Executive consists of the rector and vice-rectors – there are usually three vicerectors, but this depends on the size of the university. The rector has dual roles, that is, as an academic leader and as the chief executive officer of the university (Nizam and Nurdin, 2014). The rector is in charge of academic affairs, administrative and personnel affairs, student affairs, matters relating to alumni, and research and development affairs. Rectors of autonomous universities are not directly appointed by the State, but are instead appointed by the Board of Trustees – representing a major break from past practice. The selection process begins with faculties and departments proposing potential candidates to the Academic Senate. To become a rector, several conditions must be met. Prospective candidates must be regular university staff members with a doctoral qualification, and must have demonstrated high levels of competency, integrity, and commitment to deliver the vision and mission of the university. Candidates should also have strong leadership and management skills, and cannot be older than 60 years of age or have a criminal record. They must be mentally and physically healthy (with proof required from a medical practitioner). The Academic Senate recommends a minimum of two prospective candidates to the Board of Trustees. The candidates must then publicly present and explain their vision and plans for the future development of the university. Voting for a new rector involves the Board of Trustees, the Academic Senate and certain external parties (chair of the Student Executive Council and some community leaders). Based on Decree 33 of the Ministry of National Education, issued in 2012, concerning electoral voting rights, the Government representatives appointed by the Ministry of Research, Technology and Higher Education control 35% of the votes, the Academic Senate controls 35% of the vote, and the external parties have 30% of the vote. Finally, the Board of Trustees appoints the successful candidate for a five-year term.

Questions have been raised about both the lack of student participation on Boards of Trustees and the prominence of the Government's role in determining the appointment of rectors of autonomous public HEIs. The Government's response is that there are already two student representatives appointed to Boards of Trustees, and that the Government's control of 35% of the votes for the appointment of a rector is considered to be democratic – and that, if it is not satisfactory, then all of the votes should be under control by the Minister because autonomous public HEIs are wholly owned by the State. Engagement by the Academic Senate and certain external parties in the election of rectors represents a significant advance on what used to happen in the past, but a large share of the power remains in the hands of the Government, meaning that governance and leadership in the system of autonomous public HEIs in Indonesia remains effectively centralised in the hands of the Government (OECD, 2015).

The nature of the separation of powers between a rector and the Board of Trustees was resolved following a conflict in 2011 at the University of Indonesia concerning the matter of which Government regulation should apply to the formation of the Academic Senate. In 2011, the Rector established the University Senate, based on Government Regulation No. 66 of 2010. The Board of Trustees then re-established the Academic Senate, based on Government Regulation No. 152 of 2000. There was, therefore, the prospect of two Academic Senates, each with the same function. The Ministry of National Education (MoNE), acting in a mediating role, proposed a solution that would allow the Rector and the Board of Trustees to resolve the conflict. A transition team was formed, and the two Senates were each dissolved. The University then agreed to adopt Government Regulation No. 152 of 2000 as the basis for establishing a new Academic Senate. The conflict here pointed to the overlapping power of the main stakeholders in selecting a legal basis for the establishment of an Academic Senate. Based on the principle of autonomous university governance, the Board of Trustees was accepted to be the governing authority for the University. The Rector, who was accepted to hold the highest executive authority with respect to administration and management at the University, was considered to be responsible for establishing the internal rules and regulations for the University. In terms of the regulatory hierarchy for the University, however, the Rector's powers were judged to be subsidiary to those of the Board of Trustees.

Financial Autonomy and its Challenges

Public HEIs have traditionally received nearly all their income from the State (Rosser, 2016). Since the introduction of autonomous public universities in the late 1990s, this situation has changed. Public autonomous universities now receive about one-fifth of their income from the State. They derive the balance of their income from tuition fees (about 60%) and the sale of services (about 20%). These services include the provision of consultancies and on-campus services such as parking, cafeterias, bookstores and the like.

Tuition fees are another important way to generate income for autonomous universities. Although tuition fees were already common before the transition to autonomy, in the new situation, the autonomous institutions are supposed to collect tuition fees directly from the students. This new financial freedom encountered strong resistance from university student organisations, academics, and parents. 'Privatisation and commercialisation' of public institutions definitely made the tuition and fees at public institutions climb (Rosser, 2016). Society protested that the State put the burden of funding education onto students' and parents' shoulder. The position of leaders of autonomous university was said to be like 'meat in a burger'. Seen from the Government's perspective, the new freedom forced the 'true' academic leaders to be more innovative and creative in generating institutional revenues. It was not a comfortable position for the rectors concerned because they generally lacked experience in acting as entrepreneurs. At the same time, students, parents, and academics protested against the tuition-fee increases.

In addition to government funding, autonomous higher education institutions are free to generate income through consultancy or cooperation with industry. To address the concern, the Ministry of Research, Technology and Higher Education is increasing the share of competitive funding programmes available to all universities. These new funding mechanisms emphasise the importance of performance and the attainment of outcomes. By being available competitively, they also stimulate competition between all HEIs, whether public or private, and they engender a more market-oriented approach to achieving State priorities (Nizam, 2006, p. 41).

In direct response to global competition, there is in general a push from Government and a perceived need within the sector to increase the level of internationalisation with a view to, amongst other things, improving research outputs. Internationalisation is valued for many reasons, not the least of which is the extent to which it can create new opportunities for academic staff members to collaborate with scholars from abroad in publishing research results. The OECD (2015, p. 202) reports that there has been an increase in research output from Indonesia, particularly in the form of peerreviewed research papers in recognised international journals, often written collaboratively with foreign scholars. In January 2017, the Ministry of Research, Technology and Higher Education (2018) launched Science and Technology Index (SINTA) which is a web-based research information system which offers a quick, comprehensive and easy access to journals published by Indonesian higher educational and research institutions and citations of journal articles to measure the performance of researchers, institutions and journals in Indonesia.

There are, however, important constraints, of which the most fundamental is simply the lack of funding (Suryadarma, Pomeroy and Tanuwidjaja (2011). It is a condition that has been impacting on Indonesian HEIs for ages. Limited core funding from the Government for public HEIs does not provide a sufficient basis for them to plan independent research agendas and to choose long-term research projects. Researchers engage, therefore, in short-term contract-based research projects. An over-reliance on these kinds of projects means that researchers often face difficulty in covering their ongoing costs and in providing for institutional capacity building. Consequently, research groups in many public HEIs often turn to other work in order to supplement their incomes. It is not only a question of limited budgets but also of limited time being available to conduct research. Furthermore, Suryadarma, Pomeroy and Tanuwidjaja (2011) indicated that research staff members showed a greater tendency to spend a large share of their time on non-research-related activities. Related to this problem is, of course, a poor command of English, which is the most common language for reporting internationally on research. Researchers in Indonesia not only lack time to do research, but they also lack time to master English, which is the language they need to utilise to have an impact internationally and they have limited access to international publications (Rakhmani and Siregar, 2016).

In addition to insufficient funding and limited time, research projects are mostly irrelevant to the development of local industrialization. Moeliodihardjo, Soemardi, Brodjonegoro, and Hatakenaka (2012) indicate some flaws in university operations that hamper their ability to develop industrial partnerships. Most of the time universities see industries as too profit-oriented and lacking idealism, while industries see universities as ivory towers and too bureaucratic to provide useful assistance. The inflexible financial management and cumbersome bureaucratic procedures in universities are

incompatible with the rapid responses required in the dynamic industrial world. Universities do not fully support individual academics who initiate industrial partnerships.

Conclusion and Recommendation

One of the breakthroughs in Indonesia's recent experience of higher education governance and reforms has been the extent of the freedoms now afforded to the autonomous public HEIs. Are the matrices of autonomy appropriate? No, the higher education system is not yet, however, at a point where it could be said to enjoy full democracy. Neither is the exercise of the autonomy that is available to public HEIs running as smoothly as it could. The Government retains a significant influence over the public autonomous HEIs through its capacity to control 35% of the votes for the election of rectors. The general view from within the higher education system is that the Government has never really lost control of the public autonomous universities, and that it is simply exercising its control in a softer way than would be evident if it simply assumed all control over the appointment of rectors.

Conflicts emerging between students and university leaders point also to inadequacies in the implementation of autonomy by the Government. Autonomous public HEIs are being required to function as businesses, even though they are not privately owned, and even though university leaders are not entrepreneurs. Because of limited public financial support, autonomous public HEIs must generate additional income as best they can. One of the easiest ways of generating this revenue is by raising tuition fee levels. However, these increases never appear to result in commensurate improvements in quality, and a lack of transparency not only in their financial management but also in their general processes of policy development compounds the problem. Not surprisingly, students resist increasing tuition fee levels, and they fail to understand why certain policies have been adopted. In many respects, the leaders of autonomous public HEIs are inadequately prepared for the challenges that autonomy from the State has created for them.

Increased tuition fee levels bring with them an additional challenge, that of autonomous public HEIs becoming less accessible by capable young people from poorer home backgrounds. The Indonesian Constitution clearly stipulates the right of all citizens to obtain an education, but this right can be inaccessible if university attendance is unaffordable. Autonomous public HEIs are, therefore, placed in a position of being seen to favour those from better-off home backgrounds who can afford high tuition fee levels, at the expense of those who are clever enough to attend university but whose families are not financially capable of supporting them.

The need to be financially self-reliant also impacts on the research profile of autonomous public HEIs. Teaching generates more income for these institutions, and so it naturally becomes the main priority area. The activities of the National Accreditation Board for Higher Education, which focus on the accreditation of study programmes, accentuate the need for teaching to be the main priority. As a consequence, research in Indonesian public HEIs is neglected.

Some recommendations may be proposed in light of these circumstances. First, there is a pressing need to improve the management capability of senior officers in Indonesian autonomous HEIs. The management of a large corporate university requires ability in creating innovative visions and in making sure that good management is exercised at all levels within the university. Top managers in autonomous public HEIs need to leave behind a mindset associated with financial dependency on the State and need to develop a mindset associated with entrepreneurship. Second, continuous improvement and sustainability should be maintained. In order to ensure the continuity of education. Universities need great efforts to find and generate financial resources to finance all their activities. They also need to be creative in opening profit-oriented units by having collaboration with companies. In this regard, they must achieve a balance between educational services and commercial businesses. Third, there are issues concerning accountability and transparency. Universities cannot exist separately from the society to which they belong. They are not 'ivory towers'. While seeking to secure their autonomy, they must also embrace the community as one of their major stakeholders by engaging it in each step and activity undertaken. It follows that universities will need to be transparent and to provide public accountability. To foster a high level of community trust is not

HIGHER EDUCATION GOVERNANCE AND REFORMS IN INDONESIA: ARE THE MATRICES OF AUTONOMY APPROPRIATE?

easy. Society has become increasingly selective in choosing universities based on their quality. Therefore, universities should be really open to receive opinions, suggestions and positive inputs regarding their contribution to education.

References

- Directorate General of Higher Education (DGHE). (2003). *Higher Education Long Term Strategy 2003-2010* (HELTS IV). Jakarta: the DGHE, Ministry of National Higher Education.
- Fahmi, M. (2007). *Indonesian Higher Education: The Chronicle, Recent Development and The New Legal Entity Universities*. Department of Economics, Padjadjaran University, Working Papers in Economics and Development Studies (WoPEDS).
- Higher Education Database. (2019). Grafik Jumlah Mahasiswa Aktif Berdasarkan Jenis Kelamin [Graphs of active graduate students by gender]. Available at https://forlap.ristekdikti.go.id/ mahasiswa/homegraphjk [Accessed 6 March 2019].
- Higher Education Database. (2019). *Grafik Jumlah Perguruan Tinggi* [*Graphs of higher education institutions*]. Available at https://forlap.ristekdikti.go.id/perguruantinggi/homegraphpt [Accessed 6 March 2019].
- Higher Education Database. (2019). Jumlah Dosen Berdasarkan Jenjang Pendidikan Tinggi [A number of lecturers by academic degrees]. Available at https://forlap.ristekdikti.go.id/dosen/ homegraphjenjang [Accessed 6 March 2019].
- Ministry of Research, Technology and Higher Education (MRTHE). (2013). Jabatan Akademik Dosen [Academic positions of lecturers]. Available at: http://www.kopertis12.or.id/wp-content/uploads/2014/12/1.-PERMENPANRB-17-2013-dan-46-2013_update-6-Des-2014.pdf [Accessed 5 March 2019].
- Ministry of Research, Technology and Higher Education. (2017). *Status Perguruan Tinggi Negeri Berbadan Hukum Dievaluasi Secara Berkala* [*Status of Legal Entity State Universities are evaluated periodically*]. Available at http://kelembagaan.ristekdikti.go.id/index. php/2017/01/03/status-perguruan-tinggi-negeri-berbadan-hukum-dievaluasi-secara-berkala/ [Accessed 28 February 2018].
- Ministry of Research, Technology and Higher Education. (2018). *Buku Laporan Tahunan 2016 [The 2016 Annual report]*. Available at: https://ristekdikti.go.id/wp-content/uploads/2017/07/ Buku-Laporan-Tahunan-2016.pdf [Accessed 7 May 2018].
- Ministry of Research, Technology and Higher Education. (2018). *Kemenristekdikti Umumkan Peringkat* 100 Besar Perguruan Tinggi Indonesia Non Vokasi Tahun 2018 [Kemenristekdikti announces ranking of Top 100 Non-Vocational higher institutions in 2018]. Available at https://ristekdikti. go.id/kabar/kemenristekdikti-umumkan-peringkat-100-besar-perguruan-tinggi-indonesia-nonvokasi-tahun-2018/ [Accessed 5 March 2019].
- Ministry of Research, Technology and Higher Education. (2018). *Science and Technology Index*. Available at: http://sinta2.ristekdikti.go.id/ [Accessed 8 May 2018]
- Ministry of Research, Technology and Higher Education (2019). *Struktur Organisasi* [Organisational structure]. Available at: https://ristekdikti.go,id/struktur-organisasi/ [Accessed 5 March 2019].
- Moelidihardjo, B. Y., Soemardi, B. W., Brodjonegoro, S. S., and Hatakenaka, S. (2012). University, industry, and government partnership: its present and future challenges in Indonesia. *Procedia Social and Behavioural Sciences*, (52), pp. 307-316.
- National Accreditation Board for Higher Education. (2019). *Direktori Hasil Akreditasi Program Studi* [Directory of accreditation results by study programmes]. Available at https://banpt.or.id/ direktori/prodi/pencarian_prodi [Accessed 5 March 2019].
- National Accreditation Board for Higher Education. (2019). *Peringkat Akreditasi Per Jenis Perguruan Tinggi* [*Accreditation rank by types of higher education institution*]. Available at https://banpt. or.id/grafik_per_jenis [Accessed 5 March 2019].

- National Accreditation Board for Higher Education. (2019). *Struktur Organisasi [Organisational structure]*. Available at https://www.banpt.or.id/struktur [Accessed 5 March 2019].
- Ngo, J. (2013). *Lions or Lambs? How Deans Lead and Manage their Faculties at Indonesian Universities*. Enschede: Universiteit Twente.https://doi.org/10.3990/1.9789036534666
- Nizam, N., and Nurdin, M. (2014). Governance reforms in higher education: A study of institutional autonomy in Indonesia. In N. V. Varghese and M. Martin (Eds.) *Governance Reforms in Higher Education: A Study of Institutional Autonomy in Asian Countries*. Paris: International Institute for Educational Planning, pp. 85-105.
- Nizam. (2006). *The Need for Higher Education Reforms*. Asia-Pacific Programme of Educational Innovation for Development, United Nations Educational, Scientific and Cultural Organization. Bangkok: UNESCO Bangkok, pp. 35-68.

OECD. (2015). Education in Indonesia: Rising to the Challenge. Paris: OECD Publishing.

- Rakhmani, I., and Siregar, F. (2016). *Reforming Research in Indonesia: Policies and Practice*. Global Development Network Working Paper Series. Jakarta. Available at https://www.academia. edu/34419561/Reforming_Research_in_Indonesia_Policies_and_Practices [Accessed 25 March 2019].
- Rosser, A. (2016). Neo-liberalism and the politics of higher education policy in Indonesia, *Comparative Education*, *52*(2), pp. 109-135.
- Science and Technology Index. (2019). *Academic Rank*. Available at http://sinta2.ristekdikti.go.id/ [Accessed 6 March 2019].
- Suryadarma, D., Pomeroy, J., and Tanuwidjaja, S. (2011). *Economic Factors Underpinning Constraints in Indonesia's Knowledge Sector*. Jakarta: AusAID. Available at https://dfat.gov.au/about-us/publications/Documents/indo-ks2-economic-incentives.pdf [Accessed 6 March 2019].
- Welch. A. R. (2007). Blurred vision?: Public and private higher education in Indonesia. *Higher Education*, *54*(5), pp. 665-687.