TIAA-CREF Institute

Changing Faculty Workforce Models

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Executive Summary

Over the last 30 years, the traditional faculty model—comprised of full-time tenure-track professors focused on teaching, research and service—has largely disappeared and been replaced with full and part-time non-tenure track faculty. Economic changes, massification of higher education, and the formation of new institutional types, among other factors, are responsible for this shift. Four new workforce models have emerged: the adjunct model, the full-time non-tenure track model, the medical/clinical model, and the for-profit/online model. While each of these models has emerged in response to an external driver (e.g., adjuncts to address the need for a flexible workforce), no model has been intentionally designed and deployed with long-term institutional goals in mind, with perhaps the exception of the medical school model. Limited research has been conducted on the impact of these new models; what research does exist on the adjunct model suggests that it has several negative outcomes for students, including lower graduation and retention rates, and lower transfer rates between two- and four-year institutions. Research on other models that share similar characteristics may likely show similar negative outcomes, given that they also have not been intentionally designed or based on research on learning, for example. An intentionally designed faculty workforce model that draws on a meta-analysis of existing research on learning, faculty roles and work, instructional design, and workforce models from other fields likely would benefit American higher education and improve student outcomes.

Key Take-Aways

- Drivers of changes in the traditional faculty model have gained momentum in the last few decades, such that now nearly 70% of faculty in U.S. institutions are employed through part-time or full-time non-tenure track positions, and just over 30% are tenured or in tenure-track positions.
- The primary forces driving change in the traditional faculty workforce model are massification of higher education, enrollment fluctuations, dwindling resources, corporatization, technological advances, and competition from the for-profit sector.
- While new faculty workforce models have emerged in response to these forces, no model has been intentionally designed and deployed with long-term institutional goals in mind, with perhaps the exception of the medical school model.
- Limited research on the outcomes of these models focuses primarily on the adjunct model, and suggests many negative outcomes of that model for students.

The traditional faculty model—comprised of full-time tenure-track professors focused on the trilogy of teaching, research, and service—has been dominant for close to a hundred years (Finkelstein and Schuster, 2011). Experiments with other models have taken place over the years: campuses such as Evergreen State, Hampshire College, and University of Texas of the Permian Basin have experimented with new contracts, roles and appointments and never had a form of tenure (Chait & Ford, 1982). These thoughtful experiments were often driven by innovations in thinking about faculty work (e.g., to be more interdisciplinary or to focus more on teaching), but other times new models have been brought about by financial necessity. In recent years, various factors driving changes in the faculty model have gained momentum, leading to the majority of faculty being off the tenure track—referred to as non-tenure track faculty (NTTF)[1]. The result is that today 70% of the faculty are employed through part-time or full-time non-tenure-track appointments, and only 30% resembles the traditional faculty model. Although new attention is being paid to changes in the faculty workforce in recent years, Plater (1997) reminds us that the faculty has been made up of diverse but unrecognized models for several decades; these include clinical faculty, researchers, lecturers, graduate student instructors, librarians, advisors, and others who have been designated as faculty. Sexton (2006) suggests that in the future, even more workforce models will emerge outside the traditional tenure faculty model, such as master teachers, global professors, and the cyber faculty. Further, many commentators suggest that the notion that there will ever be any single workforce model is unlikely given the diversification of higher education institutions and their varying goals and student bodies.

In this paper, I describe the trends that have led to this dramatic change in faculty workforce models and outline several new models that have emerged. It is important to note that the changing workforce model is a global phenomenon. Reports from Australia, China, India, the United Kingdom, and other countries demonstrate that many other higher education systems are looking at ways to create a faculty workforce that focuses more on instruction, with higher teaching loads, more flexibility, and at less cost (Bexley, James, & Arkoudis, 2011). In the end, I comment on the limited research that has been conducted on the impact of these workforce models, which has focused primarily on the adjunct model. Research about models other than the adjunct model has been limited.

It is important to note that the faculty workforce model has always been changing; it has never been stagnant. In the 1800s, faculty were typically tutors, often holding temporary jobs as they waited for positions as ministers. In the early 1900s, faculty roles in advising and student development gave way to a greater emphasis on research. In more recent years, as the range of institutional types expanded to include community colleges, new models of faculty work focused on teaching emerged (Schuster & Finkelstein, 2006). Most of the dialogue about changing workforce models today uses the word "unbundling" and refers to the division of the component parts of teaching (e.g., curriculum development, delivery, assessment, etc.) normally performed by one person across several people. However, the term "rebundled" may more aptly describe how roles have changed over time, as historically the faculty role has been altered to meet shifts in institutional and societal needs. Historical analysis (Kezar & Gerkhe, forthcoming) illustrates that changes in faculty workforce models have often been made with no evidence about how such alterations will shape institutional goals around learning, research, or institutional service. This suggests that more intentionality around planning the faculty workforce model would benefit the enterprise.

Drivers of Change in the Faculty Workforce

Five main conditions are described as driving changes in the faculty workforce, including:

- Massification of higher education and introduction of new institutional types to meet the enrollment growth;
- Enrollment fluctuations within institutions and majors;
- Dwindling of existing resources, particularly state budget allocations;
- Corporatization of higher education; and
- Technology and competition from the for-profit sector.

While I review these most commonly described factors, I also critique some of these arguments as lacking compelling evidence or support. However, it is unlikely that the need for a new workforce model will go away as some of these factors are irreversible and compelling. For example, the trending growth of institutions focused on teaching (e.g., community colleges) instead of research is unlikely to be reversed. Shifts in enrollments within fields of study are also likely to continue as new jobs emerge and the economy moves in new directions at a more rapid pace.

1 Non-tenure track faculty include both part- and full-time appointments that are not tenure eligible and are on short-term contracts. Half of the 70% of the faculty employed on the non-tenure track are part-time.

Massification and Changing Institutional Goals

Student enrollment has been rising since the advent of the G.I. Bill in 1944, when the government began subsidizing the cost of educating soldiers returning from World War II (Rudolph, 1990, as referenced by Thedwall, 2008; Schuster & Finkelstein, 2006). The civil rights movement also increased the numbers of students entering higher education and gave rise to a greater diversity of students: there were more women, minorities, and low-income individuals entering higher education. This influx of students over the years stretched the capacity of the existing faculty, causing institutions to find ways to accommodate increasing student enrollments by hiring more faculty (Schuster & Finkelstein, 2006; Baldwin & Chronister, 2001).

As new students entered higher education, some were not prepared for university and others did not desire a four-year degree. As a result, in the 1960s, community colleges were developed and became the largest sector in higher education. This sector emphasized general education, workforce development, and teaching, and de-emphasized research (Cohen and Brawer, 2008; Wallin 2004). As a result, the traditional model of faculty, which by the 1960s had become focused on research, began to be reexamined. Faculty within community colleges needed to focus on teaching or be connected to their professional fields. Community colleges often employ and hire individuals with a master's degree rather than a doctorate (Cohen and Brawer, 2008). This change in degree requirements for teaching, and a new emphasis on professional experience as the primary credential for employment, was a significant departure from the traditional faculty model (Twombley and Townsend, 2008). It led to hiring adjunct faculty who taught part-time and brought practical knowledge and expertise from their fields into the classroom.

In the last 40 years, most of the growth in enrollments has been within institutions focused on teaching, including not only community colleges but also for-profits, metropolitan universities and colleges, and master's institutions. Shorter-term certificates and non-baccalaureate degrees are increasingly on the rise as well. In sum, the presence of new institutional types with a focus on teaching and job preparation is perhaps the most significant factor driving a new faculty workforce model.

Market Fluctuations

Enrollments rose steadily from 1945-1975 and, as predicted, declined in the late 1970s and early 1980s. Many administrators had projected that enrollment would decrease during the recession of the early 1980s, however, they misjudged the trajectory of enrollments and had to hire more faculty to meet demands. But because of growing economic uncertainty at the time, most were hired without the opportunity for tenure (Thedwall, 2008).

Additionally, institutions struggled with fluctuations of enrollment within particular fields of study such as the humanities, which declined, or business and law, which increased (Baldwin & Chronister, 2001). Market fluctuations led to a greater need for flexibility. Depending on student enrollments, demand for a particular class, and unanticipated changes in budgets for a semester or academic year, departments sometimes had to make decisions to add or remove classes and, thus, instructors (Baldwin, 1998; Gappa & Leslie, 1993; Hollenshead et al., 2007; Tolbert, 1998).

These two types of enrollment fluctuations—overall institutional and within fields—led campuses to question their ability to make long-term hiring commitments. Hiring NTTF, particularly part-time faculty on a semester-to-semester basis, allowed departments to more readily respond to changes and fluctuations in the market, whether a recession or change in workforce needs. And as applied fields have expanded, many talented professionals have been available to fill faculty roles in these areas, thus lessening the need for traditional faculty (Baldwin & Chronister, 2001).

Some question whether market fluctuations sufficiently explain campus hiring practices. Fields such as English, mathematics, and foreign languages sustain their large enrollments due to general education requirements, even if demand for certain majors shifts (Slaughter & Rhoades, 2004). Furthermore, market fluctuations did not produce enrollment declines predicted during the 1970s or 1980s (Cross & Goldenberg, 2009). In fact, higher education has generally increased in enrollments over the last 40 years.

Decreasing Funding and Economic Advantage

Baldwin and Chronister (2001) note that the reduction in government funding from the late 1980s to the 1990s is a key reason why institutions turned to contingent faculty in greater numbers. While institutions were experiencing reductions in funds, the costs to maintain a college or university were increasing. Institutions had to find ways to meet those rising costs, and so they raised tuition, but they also needed to find ways to limit expenses without taking teachers out of the classroom (Baldwin & Chronister, 2001). Instruction was and still remains one of the largest institutional costs. Hiring contingent faculty was seen as one way to reduce expenses. In more recent years, particularly since the Great Recession that began in 2008, we have seen a continuation of this trend of hiring more faculty off the tenure track. Most, if not all, scholars agree that economic reasons play a primary role in the hiring of non-tenure-track faculty and, likewise, the exploration of new workforce

models (Gappa & Leslie, 1993; Baldwin & Chronister, 2001; Cross & Goldenberg, 2009; Hollenshead, et al., 2007; Benjamin, 2002; Burgan, 2005; Slaughter & Rhoades, 2004). For the price of one tenure-track faculty member, for example, a college or university could hire several adjunct faculty members and thereby put more teachers in the classroom to meet the demands of increasing enrollment (Cross & Goldenberg, 2009; Pratt, 1997).

Yet, others suggest that overall institutional spending has not decreased with the hiring of contingent faculty. Instead, funds have been redirected to cover new or rising expenditures in administrative areas. The Delta Cost Project (http://www.deltacostproject.org/) has consistently demonstrated that expenditures on the academic mission and instruction have mostly remained flat or declined over the last 30 years, while expenses in other categories are increasing, sometimes dramatically. For example, athletics programs continue to be a major draw on resources. In light of these data, the economic imperative to hire cheap faculty labor can be interpreted as a choice to pursue other institutional objectives such as becoming more competitive in sports, research, or fundraising and marketing.

Corporatization

In the last 30 years, higher education has been more heavily influenced by corporate and market values than ever before. Boards of trustees, filled with corporate leaders, have asked institutions to consider new employment arrangements. Throughout the 1980s and 1990s, corporations moved toward contingent employment models, and higher education institutions were expected to consider increasing this segment of the faculty labor market as well. Boards also asked academic leaders to reconsider tenure and examine faculty productivity and workloads. Baldwin and Chronister (2001) note that for the first time in many years, in the early 2000s institutions began to have to face a loss of public trust of faculty accountability, criticisms of tenure, and challenges to traditional faculty roles. Recent surveys (*Inside Higher Education,* 2013) of presidents and chief financial officers within higher education show declining support for tenure and a desire for greater institutional flexibility around employment: 17% of presidents said they would eliminate tenure, 11% would hire more adjuncts, 38% would increase teaching loads, and 66% preferred long-term contracts over tenure appointments.

Clearly, the shift in faculty hiring and current composition of the faculty reflects a new value system among boards and other higher education leaders. While corporate values and a drive for a more accountable and productive faculty likely will continue to shape how campuses think about a faculty workforce model, this mindset is itself flexible and could once again shift if boards were to begin to perceive flaws in the current contingent faculty model.

Technology and Competition from For-Profits

New digital technologies, such as platforms for distance learning, learning information systems, and learning data analytics, have emerged in the last 20 years, revolutionizing the way people think about educational delivery and the very nature of higher education. Foundations such as the Bill and Melinda Gates Foundation are funding major projects (e.g., Next Generation Learning and personalized adaptive learning) with the goal of rethinking higher education. They have called for a fundamental shift in the business model of higher education. For-profit companies and providers such as Udacity and Coursera are further refining technologies that promise to deliver education at lower costs to larger numbers of students. They also propose a new model of faculty and a new concept of the academic workforce. This model will be described in more detail below, but the essential elements are fewer faculty, a diminished role for faculty in the educational process, and new and expanded roles for such work as coaching, advising, and curricular design.

Advances in technology also have led to more aggressive competition from for-profit institutions, and challenges to the way traditional colleges and universities function (Baldwin & Chronister, 2001; Cross & Goldenberg, 2009). As a result of new competition, trustees at nonprofit institutions have pushed campus leaders to envision ways that the faculty workforce model might be adapted to reflect business models organized around contingent labor and unbundled faculty roles—that is, the model used within the for-profit sector. It is unclear how viable the argument is that competition will continue to drive a different faculty model. As described below, there are no data to support claims that the online/for-profit faculty model supports institutional goals of student learning. Early research on MOOCs, for example, has documented declines in student retention, completion and learning (CCRC, 2013).

New Faculty Workforce Models

Given these various pressures for change, one would imagine that several faculty workforce models would have been developed to accommodate the range of forces bearing upon the traditional model. Indeed, four models have emerged:

- Adjunct Models;
- Full-Time Non-Tenure-Track;
- Clinical Faculty within Medical Schools; and
- Online/For-Profit Model.

While each may have emerged to address an external pressure or force (e.g., adjuncts to address need for flexible workforce), none have been intentionally designed and deployed with long-term institutional goals in mind, perhaps

with the exception of the clinical faculty in schools of medicine. In fact, the new workforce models were generally *not* created as a result of a thoughtful examination of these external drivers and strategic thinking about how best to respond to them.

It is important to note that the for-profit sector's unbundled faculty workforce model is a model in progress, and not a single approach. Instead there are various iterations and constant experimentation, making it difficult to document results. For example, the *Chronicle of Higher Education* (August 2013) profiled a new higher education institution that is building a new faculty workforce model. They will hire star faculty and give them 90% of the tuition, while dispensing of most of the traditional institutional infrastructure. Their new, hybrid model is built around the faculty as the center for learning, offering small classes (to compete with MOOCs), and abundant faculty advising and opportunities for faculty-student interaction. Essentially, they are rebundling faculty work, rather than unbundling it. While this example is just emerging, like the other models, it is shaped by the forces of technology, competition, student demand, and redeployment of resources. In this case, resources are flowing to faculty rather than to administration, a reversal of prevailing trends in recent years.

A great deal of experimentation is currently underway, although largely in the form of small pilot studies. A few new workforce models that have emerged in the last 40 years have scaled, however, as described below. The example described above, though, serves to illustrate the fact that the faculty workforce is very much in a state of flux and is changing even beyond the models described herein.

Adjunct Models

The first new, scaled faculty workforce model to emerge was the adjunct or part-time faculty member. At first, adjuncts were employed primarily at community colleges. Part-time faculty typically taught within vocational areas of study and held full-time, professional positions in their fields. Over time, though, they have become a more diverse group. These positions first began to be seen as an option for individuals looking for more flexible career paths, such as recently retired faculty members or professionals with children or other obligations and responsibilities. This workforce model eventually spread into other sectors, as research universities and other institutions offering professional degrees saw adjuncts as a way to bring in current, practical knowledge as a result of these instructors' connections within applied fields of study. Adjuncts comprised 20% of the workforce in 1970; today, they represent 50% of the faculty in higher education. In community colleges, part-timers now average 70% of the workforce, although roughly 11% of community colleges have 80% or more part-time faculty. This workforce model originally served a distinctive purpose and was limited in scope, but has expanded beyond its original intentions and function.

The part-time faculty profile typically is focused exclusively on teaching, characterized by short-term semester-to-semester employment, with limited connections to the institution and its long-term goals. In the 1970s and 1980s, adjunct faculty typically had full-time employment or other obligations outside academia, so their short-term contracts were seen as relatively unproblematic. Given the large number of tenure-track faculty in earlier eras, adjuncts' lack of connection to the institution and their focus on just teaching had little impact on broader institutional goals. But the adjunct workforce model became strained over time as these positions began to be filled by individuals striving for full-time employment or tenure-track positions; the percentage of tenure-track faculty declined; and as there were fewer tenure-track faculty to do work related to curriculum development, governance or service (e.g., leading programs or field placements).

Full-Time NTTF Models

Baldwin and Chronister (2001) were the first scholars to document the rise of full-time non-tenure-track faculty. Prior to the early 2000s, few institutional leaders were aware that full-time NTTFs comprised a major segment of the faculty workforce—nearly 20% by 2013. The profile of a full-time NTTF member is typically focused only on one area of the traditional trilogy of faculty responsibilities—teaching, research or service. Under this model, faculty roles are specialized and unbundled. Most full-time NTTF positions—70%-- are dedicated to teaching (Lechuga, 2006). Other positions, typically in the sciences, are designed for research only, an appointment that is becoming more common; and some NTTF positions are mostly administrative, focused, for example, on program development in a new area of study such as health information systems. Originally, full-time NTTF positions were created to focus on special and short-term needs such as fulfilling research grants, teaching in an area with growing enrollments, or program development. Similar to the adjunct workforce model, however, this appointment type has grown beyond its original intended purposes.

Full-time NTTF typically are hired on an annual basis, but some have multi-year contracts, often for three to five years. Their longer contracts provide some job security, offer stability for planning courses and curricula, and time for carrying out service and leadership work formerly done by tenure-track faculty. This model allows institutions flexibility to make changes based on enrollments, revenues, and state budget allocations. Studies of full-time NTTF show that their working conditions tend to be closer to those of tenure-track faculty; they typically have just one institutional affiliation, are often eligible for health and other benefits,

have salaries closer to those of tenure-track faculty, and are more knowledgeable about institutional goals and outcomes because they are present at the institution and involved in its activities and decision making.

Hollenshead's and others' (2007) recent study found that full-time NTTF are increasingly looking exactly like their former tenure-track colleagues; that is, they are often participating in teaching, research and service. Increasingly, full-time NTTF are being asked to provide a service role as the shrinking number of tenure-track faculty means institutions and departments are unable to meet institutional service obligations (Hollenshead et al., 2007). While campuses often have polices that full-time NTTF should not have work profiles similar to the tenure-track faculty in order to protect tenure, such policies have been violated on many campuses.

Medical School Clinical Model

Medical schools have been tinkering with their model in response to various challenges in recent years. They were plagued by chronic problems of clinicians feeling pressured to practice and finding little time to teach, teaching faculty being treated as second-class citizens, and research faculty being critiqued for not having enough practical expertise or being torn between the classroom and their labs. Medical schools have shifted to a model that resembles the full-time NTTF model, but which has some unique features with regard to how it is commonly deployed within the broader enterprise (Jones & Gold, 2001). Medical school faculty appointments have specialized into three main tracks—research, education and clinical—to better meet the mission of medical schools. In addition, they have created combined tracks where faculty perform some combination of these functions. The most recent study by the American Medical Association identified five main tracks, including investigator, researcher, clinical-educator, clinical, and educator tracks. Most institutions offer on average three to four of these five main tracks. (Bunton & Mallon, 2007)

Medical schools have made three major shifts in the last ten years, including moving away from hierarchy in status; addressing the issue of unequal working conditions; and creating more differentiation in tracks and roles to fit the needs of medical education and alleviate tensions and role conflict (Bunton & Mallon, 2007). Again, the tracks have equal status and institutions have worked to redefine cultural norms that prioritized research, and sometimes clinical practice, over education. All tracks are included in the governance process and are given voting rights. Finally, all tracks have appropriate working conditions with similar salaries, benefits, and the like. However, faculty with clinical practices may earn more money based on the work they do outside their teaching contracts. Each track offers contracts ranging from one to five years in length, and tend to have terms longer than contingent appointments outside medical schools.

The medical school tracks are clearly differentiated. The teaching track is called the education track and focuses exclusively on teaching; its numbers have grown to meet increasing demands. Clinical faculty have outside medical practices and teach part-time to reduce conflicts of time and role. Research faculty often do not teach; instead they focus on knowledge generation. Additionally, in terms of differentiation, appropriate distinctions have been made in areas such as promotion and evaluation. For example, different promotion tracks have been created based on performance in the key areas for each position—clinical work, teaching or research, respectively—rather than applying the traditional single standard based on research that had proved problematic. Medical schools also have moved to a fixed base salary, but many are eligible for bonuses and increased compensation based on performance measures that are matched to the role. Studies show that this model is still evolving. Certainly, not all status or incentives problems have been fully resolved, but it appears to be moving in the right direction (Bunton & Mallon, 2007).

While tenure has not been abandoned by medical schools, it is often reserved for a small number of faculty members who conduct basic science research—on the research track—as a way to protect their academic freedom. Often, time to tenure is being extended for those faculty members, with a longer probationary period. Finally, tenured faculty in medical schools are often not guaranteed a salary. Thus, medical schools have reconfigured the entire notion of tenure, making it a marginal part of their overall workforce model with very specified purposes related to research.

Online/For-Profit Faculty Models

The online/for-profit model unbundles the faculty teaching role and has resulted in a decline in the role of the faculty member in the teaching process, as faculty are considered too expensive to remain a central part of that process (de Boer et al., 2002; Howell, Lindsay, & Williams, 2003; Howell, Saba, Lindsay, & Williams, 2004; Paulson, 2002). Proprietary institutions such as Argosy University, DeVry Institute of Technology, and the University of Phoenix rely heavily on technology and a new workforce model. The objective is to maximize cost effectiveness; roles are unbundled because some functions might be done more cheaply by other employees. In addition, traditional faculty often lack technology expertise to utilize new information and communication technologies to their fullest extent. Thus, rather than hire faculty members to develop and deliver entire courses, the teaching process is unbundled and faculty are given entire courses to deliver. Further, teaching most often is not the primary occupation of faculty, who may hold jobs in fields like business or healthcare. Finally,

for-profits often focus on key job growth development areas and hire faculty in a very limited number of fields, including primarily education, social work, or business.

Smith (2008) provides an overview of this new model called the "virtual assembly line production," in which teaching can be broken apart into nine different functions. The nine areas are: instructional design (technology and graphics experts); subject matter experts (faculty members); the development team (graphic designers, web designers, web programmers, and editors); delivery (networking, technology, and learning help desks); interaction (faculty, often outsourced to tutors); grading (peers, tutors); improvement (instructional design team, faculty); and advising (student services, tutors, specialist leads). Increasingly, the role of instruction is becoming differentiated among individuals of varying expertise needed to create the best online courses.

Thus, the online/for-profit faculty workforce model is characterized by fewer faculty; extremely limited numbers of full-time faculty; part-time faculty with limited connections to the educational institution; no faculty involvement in governance, service or research; and limited or no disciplinary ties or expertise. Most online/for-profit faculty have not earned a Ph.D.; a Master's degree and field experience typically meet the primary hiring criteria (Lechuga, 2006), and faculty typically are hired on performance-based contracts, with continuation measured by student and, occasionally, peer evaluations.

It is important to note that various types and levels of unbundling exist among for-profits. For example, the University of Phoenix uses faculty to design courses and then staff to deliver and assess courses. Western Governors University uses external providers for development and assessment of courses (often staffed with faculty), but tutors to provide student support and advising (Paulsen, 2002). Coursera's MOOC approach is yet another model in which a small number of faculty members design and deliver courses, but assessment and advising is assigned to peers and tutors. The important point is that the unbundling of teaching among various for-profits and different online configurations is occurring in many ways. There is no single faculty workforce model in this sector.

Outcomes of New Models

> There is little evidence of strategic policy or an effort to manage employment issues, for example, human resource planning. The situation is allowed to drift. There is little infrastructure of faculty. The original purpose of temporary faculty has been distorted and used to justify similar approaches to all employment. The lack of coherence in higher education employment has many worrying implications (Bryson & Barnes, 2000, pg. 234).

A growing body of research documents how the adjunct and, to a lesser extent, the full-time NTTF workforce models are not effective in helping to meet the primary goal of higher education institutions—that is, student learning. There are no studies of the impact on other goals, such as national economic competitiveness, knowledge production, or campus goals for governance and decision making, morale, commitment and engagement, and other key institutional outcomes. There is ample research that these new models lead to employee dissatisfaction, lack of commitment, insecurity, concerns over equity, and ability to perform, but these findings have been met with little concern among institutional leaders (Kezar & Sam, 2010). The limited research on cost suggests that if an institution were to create the infrastructure necessary for the redesigned faculty role while maintaining student outcomes, costs may not go down—which is the main reason for moving in this direction. All of the intended cost savings behind most new workforce models appear to come at the price of student outcomes and learning. Therefore, while we do not know the full implications of these models, research that exists suggests that they are not taking the academy in a positive direction.

A Global Perspective

A few studies have been conducted of new faculty workforce models in other countries—mostly of contingent faculty, but also of variations in workload and role focus. For example, in Australia, teaching workloads have been increased and there are larger classes, reduced pay, and fewer benefits. A recent report by Bexley, James, & Arkoudis (2011) demonstrates that younger faculty are much less satisfied than earlier generations of faculty. Their intention to leave academic jobs is much higher, with 40% declaring they plan to leave before the age of 30. Fifty percent say their job security is not adequate, 50% report their workloads are too high, and 42% say the pay is too low. With the increasing mobility of academics worldwide, countries whose workforce models are less attractive are finding their faculty moving to other countries where conditions are better. China and India, for example, are increasingly attracting academics from other countries. A full 50% of Australian academics indicated their intentions to move to a university in another country. As institutions consider their future workforce models, they will increasingly need to think about them within a context of global competition.

Adjunct and Full-time NTTF

The research on contingent faculty models (part-time and full-time NTTFs) illustrates the problems caused by poor institutional policies to support new workforce models. Non-tenure-track teaching positions are designed poorly and lack many of the supports needed to foster positive faculty performance. For example, NTTFs have little or no involvement in curriculum planning or governance, little or no access to professional development, mentoring, orientations, evaluation, campus resources, or administrative support; they are often largely unaware of institutional goals and outcomes as well. Institutions also engage in poor practices such as last-minute hiring, which further exacerbates the problems. Furthermore, students have limited access or interaction with these faculty members, which research demonstrates is one of the most significant factors impacting a range of student outcomes such as learning, retention and graduation (Kezar & Sam, 2010).

Recent research on non-tenure-track faculty has identified some consistent and disturbing trends related to student outcomes that illustrate problems related to new faculty workforce models. The negative outcomes include lower graduation rates for students who take more courses with NTTFs (Ehrenberg & Zhang, 2005; Jacoby, 2006); poor performance among students who take courses with NTTFs compared to with tenure-track faculty (Carrell &West, 2008); and lower transfer rates from two-year to four-year institutions (Eagan & Jaeger, 2009; Jaeger & Eagan, 2009). In addition to outcomes like graduation, transfer, and future performance, studies of NTTFs' instructional practices suggest that part-time faculty use less active learning, student-centered teaching approaches, and pedagogies and strategies such as service learning, educational innovations, and culturally-sensitive teaching approaches (Baldwin & Wawrzynski, 2011; Banachowski, 1996; Jacoby, 2006; Umbach, 2008).

Most researchers emphasize that these trends in research reflect that campuses have not altered their policies and practices to support the new NTTF model, and that the faculty has devolved over the years with little intentionality about how human resources are deployed on campus (Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005; Jacoby, 2006; Jaeger & Eagan, 2009). Research also consistently shows the outcomes are worse for part-time faculty than full-time NTTFs, whose working conditions more closely reflect those of tenure-track positions (Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005; Jacoby, 2006; Jaeger & Eagan, 2009). One recent study of full-time NTTFs at an institution where NTTFs are provided better pay and support demonstrates that this model can be effective (Figlio, Schapiro, and Soter, 2013). This study bolsters the point that well-supported NTTFs can lead to better outcomes for students.

Overall, the research suggests that as we continue to experiment with new faculty workforce models, negative outcomes for students and institutions can result. Clearly, greater intentionality and care is needed as we experiment with or begin deploying new employment models more broadly.

Regenerating the Faculty

Conley (2008) documents how faculty workloads and demands have gone up while faculty support has gone down, leading to concerns about quality and performance over time. Studies of the outcomes of these experiments with new faculty workforce models suggest they are not optimal for faculty, nor for institutional performance. Conley calls for regenerating the faculty, defining "regenerating" as: "restored to a better, higher, or more worthy state" (p. 2). She also explains that regenerating the faculty workforce "requires understanding outcomes of faculty work and how faculty work must change in response to changing student and societal needs" (p. 2). Therefore, Conley acknowledges that we may need new faculty models, but that they should support faculty so that they can conduct their work in ways that lead to improved student learning and success. We must change the faculty, but in ways that help institutions meet their mission, not compromise it. Conley notes that regeneration of the faculty is a major leadership and public policy challenge that can no longer be ignored without dire outcomes for the enterprise in the long term.

Online/For-Profit Model

Much of the literature pertaining to the unbundling of the faculty role as part of the for-profit, distance, and online education models is descriptive (Boettcher & Conrad, 1999; Boettcher, 2000; Hawkins, 2000; Howell et al., 2003, 2004; Kinder, 2002; Levy, 2001; Paulson, 2002; Voorhees, 2001). There are no studies examining the impacts on student learning using the for-profit faculty model, so we instead have to extrapolate from existing studies on learning.

Research from neuroscience is helpful in understanding how students learn and connect information and their experience within the learning environment; it may also help to explain the issue of fragmentation of learning and, as a result, the potential results of unbundling faculty roles in the online/for-profit workforce models (Zull, 2011). Learning is more likely to occur when students can connect or make relevant the material in their courses with their experiences in their lives and on campus. Faculty who are more familiar with their students' backgrounds and experiences, and

have relationships with them, are more likely to be able to make these kinds of linkages to ensure that learning is occurring (Zull, 2011). MOOCs or courses that are designed by someone who is more removed and does not know the background or experience of students (in the virtual assembly line model) are less likely to make these necessary connections to advance students' learning, for example. Further, giving assessments and feedback to students without knowing them is similarly less likely to foster optimal learning outcomes.

Studies of the cost of this new faculty workforce model have also been weak; more recent studies have challenged these earlier, more simplistic studies. For example, Neely and Tucker (2010), in their study of costs for courses utilizing unbundled faculty versus traditional faculty, found on first glance that cost savings do occur when unbundling occurs. However, they were quick to acknowledge that assessing the true cost of instruction in higher education is difficult and that their results are ultimately inconclusive. For example, they describe many additional costs not calculated in many studies:

> With the unbundled faculty model, new hierarchies are created within the university to support instructional activities. What does it cost to create a new department dedicated to curriculum development, academic advising, or instructional technology? Calculating the costs goes beyond allocating an instructional technologist's salary to each course supported. Administrative support, equipment, technology, training, and supervision must also be allocated to course activities to obtain the true instructional costs for an online course. Recruiting, hiring, and training activities proliferate with the unbundled faculty model (p. 3).

Therefore, even cost savings promised by the online/for-profit faculty models may prove to be elusive. The most promising student learning outcomes appear likely to flow from blended learning environments, but to date no faculty workforce model has been developed based on this approach to teaching and learning. The blended or hybrid learning environment—involving both face-to-face campus-based and on-line activity--represents an important new area for experimentation (Bowen 2013, see ITHAKA project). Such models are not new, but they are also not well studied.

Conclusion

> We believe that colleges and universities should take command of this process [faculty roles] and redefine more systematically the nature and balance of faculty roles....to rethink and reform faculty work, positions and policies (Baldwin and Chronister, 2002, p. 143).

The forces shaping new faculty workforce models are significant and will continue to change higher education, whether this change occurs intentionally or not. The adjunct and full-time NTTF models served an important role in their early days, but have become overused and have deviated from their original purposes. The same may be said for the for-profit faculty model, which originally was meant to provide opportunities for adult students in particular fields, but has been expanded to other fields and purposes as these institutions grow. The most intentional model, that developed within medical schools, demonstrates an example where a more significant rethinking and redesign is now occurring. This paper also echoes the calls for regeneration made by Conley, particularly as we think about workforce models more broadly, rather than just considering faculty as individuals.

Emerging research on current faculty workforce models suggests that the adjunct model, and to a lesser degree the full-time NTTF model, has many negative outcomes for students. While the online/for-profit model has not been studied, emerging research from neuroscience suggests that the for-profit workforce models are likely to be problematic. The academy needs to develop new faculty workforce models that will not compromise institutional mission and goals. Pressures for change continue, but the current solutions offer little in terms of a promising future direction.

Very little research is being conducted on emerging models, and there is no review of existing research, nor of expertise to design more thoughtful workforce models. Given that existing research demonstrates that most alternative faculty models evolved without an intentional design, the most important research and inquiry needed is the intentional and thoughtful design of a faculty workforce model that reflects existing research and institutional, policy, and student outcome goals. Further, given that the sustainability and resilience of such a new model merits considered attention, that model could be tested for its viability.

Issues for Further Study

This papers outlines several additional key areas that should be the focus of future inquiry and research:

1. Meta-analysis of existing research on learning, faculty roles and work, instructional design, and workforce models from other fields in order to intentionally design faculty models.

2. Additional research on the online and for-profit models to demonstrate their costs and benefits.

3. Research on the medical school model and its possible application to the rest of the academic workforce.

4. Research on new and emerging models with attention to their scalability, noting that most alternative models to date have limited scale potential.

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