

Faculty Turnover, Teaching Continuity Capability, and the Sustainability Boundary of Private Higher Education

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Abstract: This study examines the conditions under which fixed-term, part-time, and course-based employment arrangements in private higher education cease to function primarily as cost-adjustment mechanisms and instead begin undermining instructional continuity. By constructing a formal model based on the proportion of teaching duties assigned to flexibly employed faculty, this study analyzes the interplay among contract insecurity, affective organizational commitment, workload-driven turnover, instructional continuity capacity, and net savings in staffing costs. The model results indicate that a heavy workload accelerates the point at which the educational sustainability is compromised. Conversely, predictable contract renewal arrangements and robust instructional continuity capacities allow institutions to maintain greater flexibility in staffing without incurring unacceptable losses in instructional continuity.

Keywords: Private Higher Education, Faculty Turnover, Teaching Continuity, Contract Insecurity, Educational Sustainability.

1. Introduction

The short-term financial benefits of flexible hiring are apparent. However, a balanced annual budget does not reveal what happens to an ongoing course when the instructor changes from one semester to the next [1-3]. Course coordination may suffer, the teaching team may become fragmented, and instructors may be reluctant to invest in activities that yield value only through long-term engagement with the institution. Non-permanent academic employment affects several aspects of academic work. It can shape instructors' academic identities and their engagement with the institution (Woelert et al., 2026; Kahn et al., 2024; Crutchley et al., 2024) [4-6]. It can also affect teaching and student support (McCulloch & Leonard, 2024) [7]. Research on job insecurity primarily addresses psychological contracts, organizational commitment, and turnover intentions. Other studies examine student outcomes. They compare courses taught by tenured, non-tenured, and part-time faculty. Their findings are mixed (Ehrenberg & Zhang, 2005; Bettinger & Long, 2010; Jaeger & Eagan, 2011; Figlio et al., 2015) [8-11].

The third category primarily addresses the sustainability of higher education institutions in terms of finances, governance, student recruitment, and reputation. These studies have not yet fully explained the transformation process. Sustainability also concerns whether an organization can reproduce the knowledge, relationships, and routines on which education depends. Thus, a key intermediary mechanism has not yet been fully discussed: the circumstances under which personnel turnover results in the loss of knowledge and relationships that the school cannot retain. Contract categories do not directly determine the quality of instruction, nor does the departure of a teacher necessarily lead to the failure of a course. Thus, under what conditions does flexible

academic employment cease to function as a tool for managing adaptive costs and instead transform into a risk to educational sustainability?

2. From Employment Flexibility to Faculty Turnover

A part-time specialist may teach the same course for years under a clear, ongoing employment arrangement. However, full-time faculty may face a completely different reality: repeated short-term contract renewals, delayed decisions regarding reappointment, and unreliable paths to promotion. This distinction goes beyond mere contract categories. Institutions may need the flexibility to adjust faculty numbers, contract terms, and disciplinary staffing levels. Decisions regarding contract renewal are sometimes made only after departments have already allocated teaching assignments for upcoming semesters. Faculty members may know which courses they are expected to teach; however, their employment status, income, and opportunities for promotion remain uncertain. Curricula require continuous revision through repeated cycles of instruction [12-14]. Whether a teacher ultimately leaves their position also depends on the availability of other roles, personal circumstances, and practical feasibility of career mobility. A lack of transparency regarding contract renewal decisions can affect teachers' evaluation of the value of their work. Furthermore, a teacher's perception of a psychological contract breach is likely to be accompanied by increasingly negative work attitudes [15-19]. Consequently, the presence of such uncertainty may impact the feasibility of retaining teachers.

3. Teaching Continuity as an Organisational Capability

Instructional continuity is demonstrated when a discipline carries over learning objectives, accumulated curricular achievements, shared pedagogical knowledge, and consistent academic guidance from one instructional stage to the next. Teacher turnover does not necessarily disrupt this process; it can bring fresh professional expertise to instruction, and provided that personnel changes are planned in advance, the curriculum can maintain a seamless continuity. Teaching continuity contains four dimensions: curricular alignment across outcomes, content, assessment, and course sequences; collective retention of standards and pedagogical knowledge; relational continuity in advising and supervision; and developmental continuity through cumulative course and team improvement.

Communities of practice theory holds that practice develops through participation in shared activities [20].

Academics learn local expectations and tacit routines from their colleagues [21], while significant conversations and informal networks contribute to reflection and teaching improvements [22]. Although a syllabus records topics and assessment weights, it seldom captures the reasoning behind the sequence of content, the calibration of standards, or knowledge of how particular student groups respond to it. Beyond the loss of teaching hours, the departure of a teacher may also entail the loss of interpersonal networks, the transfer of institutional experience, and the abandonment of ongoing developmental responsibilities. Teaching continuity capability is understood as the capacity to retain, transfer, and reactivate educational knowledge when personnel change.

4. Formal Model and Analytical Results

4.1. Assumptions and Symbols

This study establishes a model. Table 1 lists the variables and parameters.

Table 1. Key symbols in the formal model

Symbol	Meaning
f	Proportion of programme teaching credits delivered through flexible appointments
q	Renewal transparency and employment predictability
I	Average perceived contract insecurity
M	Affective organisational commitment
W	Teaching workload intensity
T	Actual faculty turnover rate
K	Teaching continuity capability
C	Teaching continuity
$\bar{C}$	Minimum educationally acceptable teaching continuity
$G(f)$	Gross staffing savings
$R(T)$	Replacement and coordination costs
$J(K)$	Cost of building teaching continuity capability
$N(f, K)$	Net financial advantage of flexible staffing
fE	Educational sustainability threshold
fC	Upper financial break-even point

Let, $f \in [0,1]$ denotes the proportion of a programme's teaching credits delivered through flexible appointments. And $q \in [0,1]$ denotes renewal transparency and employment predictability. Average perceived contract insecurity is:

$$I(f, q) = i_0 + a(1 - q)f, \quad (1)$$

where $i_0 \geq 0$ is baseline insecurity. When $a > 0$ is the sensitivity of insecurity to flexible staffing.

Affective organizational commitment is:

$$M = m_0 - bI, \quad (2)$$

where m_0 is baseline commitment and $b > 0$. The programme's actual faculty turnover rate is:

$$T = t_0 + cI - dM + eW + gIW, \quad (3)$$

where $W \geq 0$ is teaching workload intensity, all parameters c, d, e , and g are positive, and g captures the amplifying interaction between insecurity and workload. Substituting equations (1) and (2) into equation (3) gives:

$$T = A(W) + B(W, q)f, \quad (4)$$

Where

$$A(W) = t_0 - dm_0 + (c + db)i_0 + eW + gi_0W$$

And

$$B(W, q) = a(1 - q)(c + db + gW).$$

Let $K \in [0,1]$ denote teaching continuity capability. Teaching continuity C is:

$$C = C_0 - (1 - K)(hT + lT^2), \quad (5)$$

where C_0 is continuity without turnover-related loss, $h > 0$ is the linear disruption parameter, and $1 > 0$ captures super-additive disruption when several departures occur within the same programme.

Finally, gross staffing savings are assumed to be concave:

$$G(f) = s_{1f} - s_{2f}^2, \quad (6)$$

with $s_1, s_2 > 0$.

Replacement and coordination costs are $R(T) = r_{1T} + r_{2T}^2$ and the cost of building TCC is $J(K) = j_1K + j_2K^2$.

Net financial advantage is therefore:

$$N(f, K) = G(f) - R(T) - J(K). \quad (7)$$

4.2. Result 1: Workload Accelerates the Insecurity-Turnover Mechanism

From equation (4):

$$\frac{\partial T}{\partial f} = a(1 - q)(c + db + gW) > 0, \quad (8)$$

Thus, a greater reliance on flexible appointments raises turnover when it increases contract insecurity. More importantly:

$$\frac{\partial^2 T}{\partial f \partial W} = a(1 - q)g > 0, \quad (9)$$

Workload increases the marginal effect of flexible staffing on turnover.

Renewal transparency produces the opposite effect:

$$\frac{\partial^2 T}{\partial f \partial q} = -a(c + db + gW) < 0, \quad (10)$$

Flexibility is most likely to become instability when q is low and W is high.

4.3. Result 2: Turnover Produces Accelerating Continuity Loss, Moderated by TCC

From equation (5):

$$\frac{\partial C}{\partial T} = -(1 - K)(h + 2lT) < 0, \quad (11)$$

And

$$\frac{\partial^2 C}{\partial T^2} = -2l(1 - K) < 0, \quad (12)$$

The cross-partial is positive:

$$\frac{\partial^2 C}{\partial T \partial K} = h + 2lT > 0, \quad (13)$$

This means that the greater the capacity for instructional continuity, the less severe is the negative impact of teacher turnover.

4.4. Result 3: Educational Sustainability Threshold Moves with Workload, Transparency, and Capability

Write $\bar{C}$ for the lowest level of teaching continuity that the institution considers acceptable. Rearranging equation (5) gives the highest turnover rate consistent with this standard:

$$TE(K) = \frac{-h + \sqrt{h^2 + \frac{4l(C_0 - \bar{C})}{1 - K}}}{2l}, \quad (14)$$

Since turnover rises with f in equation (4), the corresponding threshold for flexible staffing is:

$$fE(K, W, q) = \frac{TE(K) - A(W)}{B(W, q)}, \quad (15)$$

Equation (15) applies when $q < 1$ and the resulting value lies between zero and one. At $q = 1$, flexible status adds no insecurity in equation (1), so this mechanism yields no finite threshold in K raises $TE(K)$, and hence:

$$\frac{\partial fE}{\partial K} > 0$$

Stronger TCC therefore allows an institution to use a larger share of flexible staffing before continuity falls below the acceptable level. An increase in W raises both $A(W)$ and $B(W, q)$, and hence:

$$\frac{\partial fE}{\partial W} < 0$$

the educational threshold is consequently reached at a lower level of flexible staffing. An increase in q reduces $B(W, q)$, and hence:

$$\frac{\partial fE}{\partial q} > 0$$

More transparent and predictable renewal arrangements therefore permit greater formal flexibility without generating the same degree of insecurity and turnover.

4.5. Result 4: Financial Viability and Educational Sustainability Can Diverge

Using the educational sustainability threshold fE derived in equation (15), define the upper financial break-even point as the highest level of flexible staffing for which the net financial advantage remains non-negative:

$$fC = \sup\{f \in [0, 1]: N(f, K) \geq 0\}, \quad (16)$$

The ordering of these two thresholds determines whether a hidden educational risk arises.

When $fE < fC$, the interval $[fE, fC)$ marks a sustainability risk zone. For staffing levels within this interval, $N(f, K) > 0$ while $C(f, K) < \bar{C}$.

5. Discussion

Contract type alone cannot explain the divergent

conclusions found in research on non-permanent faculty [8-11]. Temporary employment status alone does not determine the support teachers receive before stepping into the classroom. Teachers joining an established course team can review past assessment materials, consult colleagues on the rationale behind the sequencing of teaching content, and understand the course's role within the overall academic program. Teachers hired shortly before classes begin may lack these advantages; the course might commence without any formal handover, and teaching materials from previous semesters may be unavailable. The next step is to examine the usable elements that remain within the program following a change in the instructor. Past assessment materials hold genuine value for continuity only if other faculty members understand the rationale behind the original sequencing of the course content and the determination of assessment standards. Contractual designations alone cannot reveal whether others within the program can take over these tasks.

The threshold results raise another issue. A private university might continue to recruit students and maintain normal financial operations even when educational continuity falls below the acceptable level represented by fE . When $fE < fC$, the use of flexible staffing can still generate net financial gains during a period when educational capacity erodes. Neither a reduction in wage costs nor an annual surplus reveal whether the courses being taught have lost their original knowledge base or whether students' academic guidance has been disrupted. Thus, while financial viability and educational continuity are interconnected, they are not the same.

There are also limits to the capacity for educational continuity. If only one teacher leaves and another teacher is familiar with the course and has sufficient time for a handover, the academic program may be able to absorb the personnel change. However, the situation differs when multiple teachers depart simultaneously from interconnected courses. The remaining faculty must shoulder additional teaching loads, reconstruct lost course knowledge, and continue providing student guidance simultaneously; the resulting losses are super-additive. While a robust TCC can delay the point at which the educational threshold is crossed, it cannot sustain indefinite reliance on non-permanent staff.

6. Conclusion

Flexible academic employment allows private universities to respond to uncertain enrolment and resource constraints. When personnel turnover begins to disrupt ongoing courses or when no clear successors can be found to take over course content and student advising responsibilities, the use of flexible staffing arrangements becomes unsustainable in an educational context. In such a scenario, a private university's financial operations may remain sound, yet its capacity to sustain its teaching mission may be compromised.

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