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The Lasting Effects of the Pandemic on Graduate and Professional Education

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Abstract:
The coronavirus pandemic caused a shift in the American higher education system. Many institutions switched from in-person to virtual platforms. Since graduate and professional students are more likely than undergraduate students to enroll in a hybrid or online program, they were less affected by the transition to online education. However, the decrease in undergraduate enrollment during the pandemic further squeezed institutional finances showing a decline in international graduate enrollment in the United States. As universities place additional scrutiny on program finances, departments will face pressure to reduce the number of assistantships that are not supported by external grants and contracts, which will disproportionately affect international enrollment. Additionally, the large graduate and professional student loan debt and benefits they receive from repayment plans are issues. Congress and the U.S. Department of Education may pursue efforts to limit the benefits that graduate and professional students receive from the federal student loan program.

Keywords: financial aid, higher education policy, graduate and professional education, and online education

The coronavirus pandemic of the early 2020s resulted in the greatest shock to the American higher education system since at least World War II. Physical campuses were rapidly emptied during the spring of 2020 and in-person classes were hastily moved to a virtual format. Enrollment of new undergraduate students, especially international students and students from historically underrepresented groups, declined precipitously during the 2020-21 academic year (Baer & Martel, 2020; National Student Clearinghouse Research Center, 2020). The lingering financial effects of the pandemic on higher education may be as large as $115 billion (Kelchen et al., 2021), and federal relief funds and large reductions in staffing (Bauman, 2021) are unlikely to fully cover losses to the sector.

Most of the attention during the pandemic has been devoted to undergraduates, and that is justifiable due to large declines in undergraduate enrollment. To this point, the direct effects on graduate and professional education have been less visible. Enrollment at the graduate level increased by 4.6% between spring 2020 and spring 2021, compared to a 4.9% decline in undergraduate enrollment (National Student Clearinghouse Research Center, 2021). Nearly one-third of graduate students were enrolled in fully online programs prior to the pandemic, which was more than twice the rate of undergraduate students (National Center for Education Statistics, 2021). This means that the sudden shift to online courses affected fewer graduate students.

The effects of the pandemic on graduate and professional education are likely to take longer to unfold, and are likely to last for years to come. In this article, I highlight four changes that I expect to see in the coming years. The first is a sharp increase in the share of students enrolled in partially or fully online programs. The second change is heightened scrutiny on the growth of programs due to an increased hesitance for institutions to commit to new spending. Third, I fear that declines in international student enrollments may be long lasting given geopolitical tensions and challenges in getting students to the United States for several years. Finally, federal student loans and income-driven repayment plans for graduate and professional students may be limited in coming years due to concerns about the price tag to taxpayers.

Increases in Online and Hybrid Enrollment

While graduate students have historically been more likely to enroll in a hybrid or online program than undergraduate students, the majority of students at public and private nonprofit institutions were still taking at least some in-person classes as of fall 2019. At that time, about 60% of students were taking exclusively in-person classes and another 10% of students were taking a mix of online and in-person classes in these sectors. This means that 30% of students outside of the for-profit sector were enrolled fully online, compared to 91% of students attending for-profit institutions (National Center for Education Statistics, 2021).

While for-profit colleges have offered the vast majority of their graduate programs exclusively online for the past decade, the pre-pandemic trend in adoption among nonprofit colleges was relatively slow. Approximately 15% of students attended fully online programs in 2012 (National Center for Education Statistics, 2013). Prior to the pandemic, the conditions for a sharp increase in online and hybrid enrollment among graduate students were already present. A majority of recent bachelor's degree recipients took at least one online course as undergraduates (author's calculation using data from the Baccalaureate and Beyond survey), giving them familiarity with the format. Nearly 40% of graduate and professional students were employed full-time in positions other than assistantships in 2016, and 30% had dependent children (author's calculation using data from the National Postsecondary Student Aid Study). These factors make the increased flexibility of online or hybrid programs more appealing and can reach audiences not served by fully in-person programs.

Even if more students are interested in enrolling in online graduate programs, colleges could be concerned that accrediting bodies for certain programs of study would not allow a fully online program. This is potentially due to research before the pandemic, primarily at the undergraduate level, that suggests that online classes generate worse student outcomes than in-person classes (e.g., Baum & McPherson, 2019; Hoxby, 2018). For example, the American Bar Association (the accrediting body for law schools) historically limited law schools to offering one-third of all credit hours through distance education. However, the accreditation standards for the 2021-22 academic year contained a provision that allowed for law schools to offer a juris doctorate program via distance education (American Bar Association, 2021). In September 2021, St. Mary's University in Texas became the first law school to be granted approval for a pilot distance education J.D. program (St. Mary's University, 2021).

One unresolved question regarding online graduate and professional programs is how courses will be offered. Online courses can be offered *synchronously*, in which classes meet on a fixed schedule using videoconferencing technology, or *asynchronously*, in which students never meet as a class and instead complete materials on a fixed schedule or at their own pace. When courses were shifted to emergency online instruction in the spring of 2020, courses typically adopted a remote synchronous format. This format can benefit students by allowing them to avoid commuting to campus, being able to join classes more easily, and to better handle family obligations while still building community. Asynchronous courses create even more flexibility, but this can lead to loss of community and struggles for students who need more structure. A mix of synchronous and asynchronous components in a course, or even asynchronous components with synchronous office hours (Lowenthal et al., 2017), may be beneficial to students. This mix of modalities may also be appealing to faculty who are seeking flexibility for their students while maintaining some synchronous interactions.

The sudden move to emergency remote instruction in the spring of 2020 has been followed by a more careful design of online courses as a portion of higher education permanently transitions away from fully in-person classes. This move must be accompanied by support for faculty and students alike. While many faculty remain skeptical of the value of online higher education (Lederman, 2020), additional training and support for online-first course design has the potential to alleviate these concerns and better serve students. This also requires universities and programs to support students who may not have experience with online education or reliable home Internet access.

Increased Financial Scrutiny for Graduate Programs

Research has shown that generations bear scars from financial traumas that they have faced. Young adults in economic crises such as the Great Depression, the 1980s farm crisis in rural America, and the Great Recession had their economic outlooks affected by growing up in challenging times (Cherlin et al., 2013; Oreopoulos et al., 2012; Riney-Kehrberg, 2015). The same is likely to be true with higher education leaders as a result of the coronavirus pandemic. In the spring of 2020, colleges faced an unprecedented situation with having to issue refunds for housing, dining, and parking services along with increases in information technology and campus safety spending. This resulted in a sudden liquidity crunch that forced many colleges to draw down reserves or access lines of credit (Bauman, 2020; National Association of College and University Business Officers, 2020). This experience is likely to dissuade colleges from making large investments in new programs.

Prior to the pandemic, many colleges were already concerned about the financial landscape of the 2020s. Colleges that specialize in serving students straight out of high school are well aware of the decline in the number of high school graduates, which has been occurring in the Northeast and Midwest for decades and will overtake much of the nation in the next decade. At the same time, enrollment of older students fell during much of the 2010s as people chose to return to the workforce over pursuing an education in a strong economy (Bransberger et al., 2020; Grawe, 2018). Colleges were also losing pricing power prior to the pandemic for undergraduate students in particular, with tuition increases moderating and financial aid increasing (National Association of College and University Budget Officers, 2021; Ma et al., 2020). During the pandemic, college tuition prices fell by the largest amount on record (Pickert & Lorin, 2020), further squeezing institutional finances.

The pandemic is likely to accelerate a trend in higher education toward the adoption of responsibility center management (RCM) budgeting models, in which individual units are held accountable for their financial position and can benefit from new initiatives that they introduce if they are successful (Curry et al., 2013). While a few institutions adopted the model prior to the Great Recession, there has been rapid growth in the model in the last decade due to accountability pressures and the diffusion of the concept through several large higher education consulting firms. Although colleges frequently limit how much departmental budgets can change through RCM (Deering & Lang, 2017), there is some evidence that RCM results in increased tuition revenue for colleges (Jaquette et al., 2018).

RCM budget models provide academic units with incentives to offer new graduate programs or expand current offerings, but only if they are profitable within a short period of time. This is crucial because the pandemic had differential effects on enrollment by field of study. Between 2019 and 2020, for example, business enrollment at the graduate level increased by 8.1%, while humanities and engineering enrollment both declined (Zhuo & Gao, 2021a). Large investments in facilities or tenured faculty will be difficult to justify under RCM, but they will also be hard to undertake in general as long-term financial flexibility has become a key focus for colleges. Online graduate programs have an advantage in that few physical expenses are required, and programs that can be staffed by term or adjunct faculty instead of tenured faculty allow programs to be more easily eliminated. Regardless of the modality of the program, colleges and accrediting bodies will more closely scrutinize proposals for new programs and not automatically renew existing programs.

The rise of online program management companies (OPMs), which allow colleges to outsource recruitment, marketing, and other services, make it easier for institutions to start or expand programs (Pelletier, 2018). OPMs state that they allow colleges to serve broader markets and focus on instruction (Finkelstein, 2020), but critics warn about the outsourcing of academics to third-party providers and contracts that take a substantial share of revenue from institutions (Dudley et al., 2021). For example, the collapse of Concordia University in Oregon was precipitated by an OPM contract for graduate programs that required large payments that the university could not afford (Manning, 2020). Going forward, I expect OPMs to play a larger role in the graduate education space, but under contracts that are more favorable to colleges due to economies of scale among OPM providers and increased market competition (Lederman, 2021).

Declining International Student Enrollment

During the late 2010s, approximately one million students attending college in the United States—about six percent of all students—were international students. International student enrollment increased by more than 50% during the 2010s, even as the United States lost market share to Canada and Australia (Mason, 2021). But during the 2020-21 academic year, international student enrollment in the United States fell by 16% while new international student enrollment dropped by 43% (Baer & Martel, 2020). At the undergraduate level, international students are a particularly important revenue source at some colleges, contributing to financial losses.

Graduate and professional education programs in the United States are generally far more reliant on international student enrollment than are undergraduate programs. Nearly one in five graduate students came from other countries in 2019, with higher rates at the most research-intensive universities and in STEM fields (Okahana et al., 2020). The declines in international graduate enrollment mirrored the overall decline in international student enrollment. New master's degree and graduate certificate enrollment fell by 43% in fall 2020, while the number of new international students entering doctoral programs dropped by 26% (Zhou & Gao, 2021b). Total graduate student enrollment increased during the pandemic (National Student Clearinghouse Research Center, 2021), meaning that a surge in domestic enrollment more than made up for the decline in international enrollment.

International graduate student enrollment in the United States is likely to be volatile in the coming years. One concern regards the availability of assistantships, which are particularly important for international PhD students. While only 20% of PhD students who are American citizens received an assistantship in 2016, 56% of international students on visas had assistantships (authors' calculation using data from the National Postsecondary Student Aid Study). As universities place additional scrutiny on program finances as detailed in the previous section, departments will face pressure to reduce the number of assistantships that are not supported by external grants and contracts. This will disproportionately affect international enrollment. Full-pay students will still be welcomed with open arms, but it remains to be seen how the pandemic affected international students' ability to pay.

Another factor that could potentially affect international student enrollment is geopolitical conditions, especially the relationship between China and English-speaking nations that enroll large numbers of Chinese students. Any disputes between China and countries other than the United States could help graduate enrollment in the United States, while tensions between China and the United States could send students to other countries. Australia has recently seen a sharp increase in the number of Chinese students enrolled (Mason, 2021), and they could be the main beneficiary if China allows more students to enroll in other nations. China has greatly improved the quantity and quality of its top-tier research universities over the last several decades through the 985 Project (Zhang et al., 2013), meaning that students could stay home instead of going elsewhere.

Finally, it remains to be seen whether students will be as willing to study in other countries after the pandemic finally ends. Early data suggest that international student applications were generally steady between 2020-21 and 2021-22 (Martel & Baer, 2021), but it is too early to tell the implications for graduate student enrollment in particular. Even within the United States, there are questions as to whether international students may wish to attend universities in areas with low vaccination rates or without vaccine requirements. Research has found that state and local political characteristics were associated with having in-person classes in the fall 2020 semester (Collier et al., 2021), and the vast majority of institutions with vaccine mandates in the fall 2021 semester are in states with Democratic governors. This could result in some institutions seeing increases in international graduate student enrollment, while institutions in other states could lose students.

Pressures on Federal Student Loans

Federal financial aid to graduate students has almost exclusively been in the form of federal student loans, as only undergraduate students are eligible for Pell Grants and federal work-study awards are a small portion of the portfolio. Over the last two decades, federal loans to graduate students have fluctuated between about one-third and one-half of total loan disbursements. Total graduate student borrowing of federal student loans has increased from $10 billion (in current dollars) during the 1999-2000 academic year to $35 billion in the 2019-20 academic year (Ma et al., 2020). The availability of federal Higher Education Emergency Relief Fund aid helped provide students with additional grant aid during the pandemic, but the allocation formula is primarily based on undergraduate Pell Grant enrollment (U.S. Department of Education, 2021b).

There have been two major changes to federal student aid policy for graduate and professional students over the past two decades. The first change was the introduction of Grad PLUS loans in 2006, which allowed all graduate and professional students to borrow up to the full cost of attendance in federal loans. This shifted students from private loans to Grad PLUS loans while also expanding access to credit to people who were unable or unwilling to obtain private loans. For example, the share of law students borrowing private loans declined from 33% in 2004 to just five percent in 2012 while 59% of law students had Grad PLUS loans (Kelchen, 2019; Woo & Shaw, 2015).

The second major change was the major expansion of income-driven repayment (IDR) programs beginning in 2007 and occurring throughout the 2010s. Prior to 2007, students attending a select group of colleges could access IDR plans that required them to pay up to 20% of their discretionary income (above 150% of the federal poverty line) for up to 25 years. Legislation in 2007 reduced payments to 15% of discretionary income for 25 years, and subsequent changes in the 2010s reduced payments to as little as 10% of discretionary income for 20 years (Federal Student Aid, n.d.a.). The Biden administration has made reducing payments to as little as five percent of discretionary income a priority in their 2021-22 negotiated rulemaking session (U.S. Department of Education, 2021c).

Another key IDR program is the Public Service Loan Forgiveness (PSLF) program, which allows students working in the public sector or at nonprofit agencies to have their loans forgiven after ten years of payments while working for a qualified employer. Unlike other IDR plans, borrowers under PSLF do not have to pay interest on any forgiven balances (Federal Student Aid, n.d.b.). To this point, the PSLF program has been plagued with confusion about eligibility, the initial lack of a process to certify payments, and a lack of guidance for borrowers and student loan servicers alike (Emrey-Arras, 2018). Only 2.1% of PSLF applicants had their loans forgiven as of April 2021, although that percentage is likely to increase somewhat in the future as more borrowers reach ten years of payments (Federal Student Aid, n.d.c.).

The issue of graduate and professional student debt has gained more attention in recent years for two reasons. The first is high levels of student debt. While undergraduate students face borrowing caps of $31,000 for dependent students and $57,500 for dependent students, graduate students can borrow up to the full cost of attendance. As a result, graduate student debt burdens are high except for those who receive graduate assistants. The average student loan balance (including undergraduate loans) was $246,000 for MD graduates, $145,500 for JD graduates, and $98,800 for PhD graduates outside of education in 2015-16 (National Center for Education Statistics, 2021). At the same time, new data from the College Scorecard has highlighted high debt-to-earnings ratios early in the careers of graduate degree recipients. The *Wall Street Journal*'s series on graduate student debt (e.g., Korn & Fuller, 2021) received a great deal of attention from policymakers and the general public, heightening scrutiny of graduate borrowing.

The other key issue is the disproportionate benefit that graduate and professional students are likely to receive from IDR and PSLF. Professional programs such as law schools were key advocates of using PSLF to encourage graduates to pursue lower-paid public-interest jobs (Schrag, 2007), and the typical Grad PLUS borrower who signaled interest in PSLF as of 2017 had $140,000 in debt (Emrey-Arras, 2018). However, the initial intent of legislation expanding other IDR programs was to exclude Grad PLUS loans from forgiveness outside of PSLF, but this was changed by a likely drafting error in regulations (Shireman, 2017). Because debt burdens are so high for graduate students, about 15% of total disbursements between 2010 and 2017 are expected to be forgiven for graduate students relative to five percent for undergraduate students (Karamcheva et al., 2020). This has raised questions about whether graduate programs are taking advantage of IDR and PSLF by increasing prices, although my research examining professional programs finds that not to be the case (Kelchen, 2019; 2020).

In the next decade, I expect members of Congress and the U.S. Department of Education to pursue efforts to limit the benefits that graduate and professional students currently receive from the federal student loan program. If PSLF continues to exist in its current form, it will probably continue to treat graduate students the same as undergraduate students. But limits on graduate student borrowing are a real possibility, especially as the federal government consistently overestimates the proceeds they expect to receive from the loan portfolio (Emrey-Arras, 2017; U.S. Department of Education, 2021a). This would create additional opportunities for private student loans, whether through traditional loans or the upstart income share agreement market. If students are unable to access credit, it could adversely affect access to graduate and professional education.

Finally, although federal student loan repayments have been suspended since March 2020 as a result of the pandemic, I expect that repayment will resume at some point because of rising costs to taxpayers and an unwillingness to have a blanket forgiveness of student loan debt. If there is widespread student loan forgiveness, the amount forgiven will only be a small fraction of what many graduate and professional students currently owe the federal government. Additionally, since most affordability proposals are focused on undergraduate education, graduate student debt will begin climbing again immediately after any forgiveness takes place.

Conclusion

Compared to undergraduate education, graduate and professional education came through the pandemic in relatively good shape. Yet pandemic-era challenges have the potential to linger for years to come and reshape large portions of graduate and professional education. In this article, I shared my thoughts about four key challenges that may not have been as prominent during the pandemic but will rise in importance during the 2020s. Graduate education in the United States is generally in a strong position, but challenges are coming for the sector and it is crucial for the higher education community to be aware of them.

And as a closing note, I am deeply concerned about issues of workload equity, burnout, and fatigue that are affecting staff and faculty at institutions around the country (McClure, 2021). In an era of centering diversity, equity, and inclusion, colleges and universities face a reckoning about how their own practices affect employees as well as students. The rising pressures facing graduate education create incentives to ignore longstanding equity concerns and to simply replace employees when they burn out or have family obligations. Instead of doing that, institutional leaders need to closely examine their policies and practices to keep and retain talented individuals who are needed to guide programs through upcoming challenges.

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